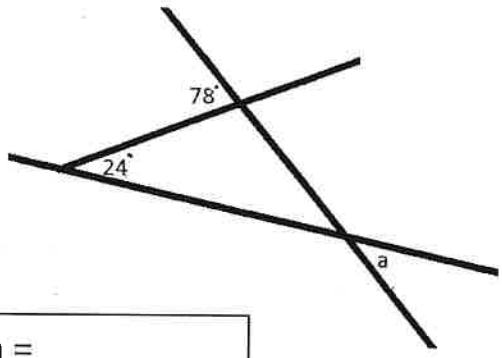
Math 11 Foundations Review

Name: _____ Block:_____ Lolliguess:____ /40

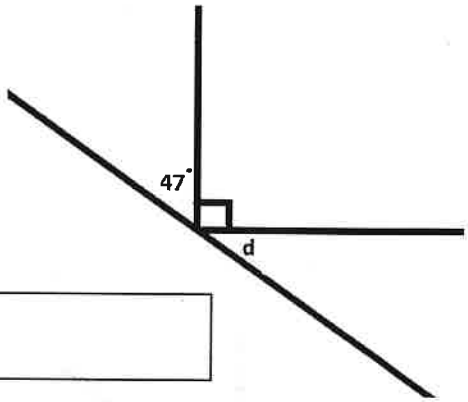
Diagrams not to scale. All questions worth 2 marks unless otherwise stated. Show all work!

1. What is the measure of angle a?



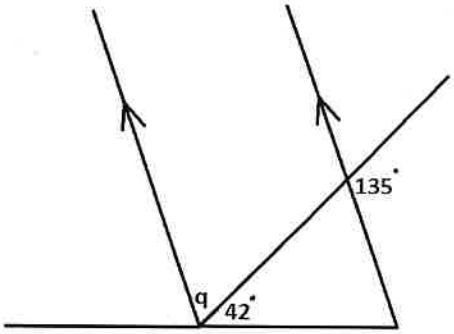
a =

2. What is the measure of angle d?



d =

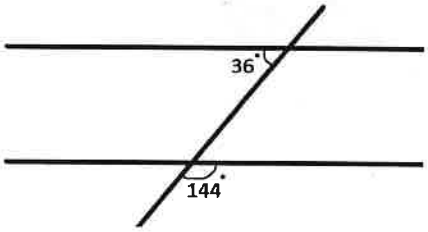
3. What is the measure of angle q?



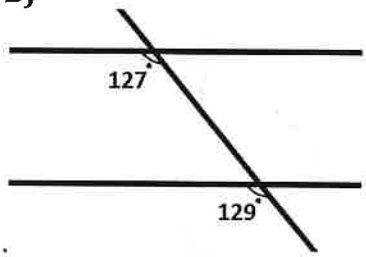
q =

4. Which of the following have parallel lines?

A)

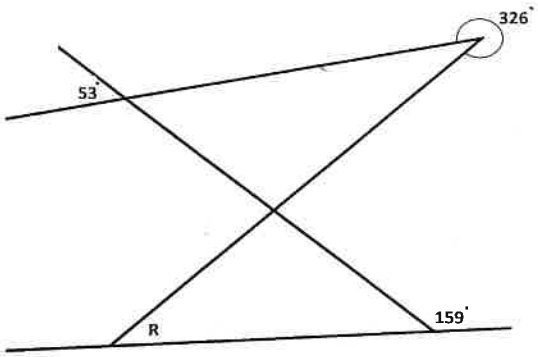


B)



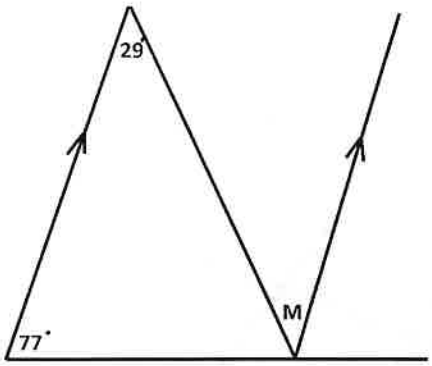
a. A has parallel lines
b. B has parallel lines
c. A *and* B have parallel lines
d. *Neither* have parallel lines

5. What is the measure of angle R?



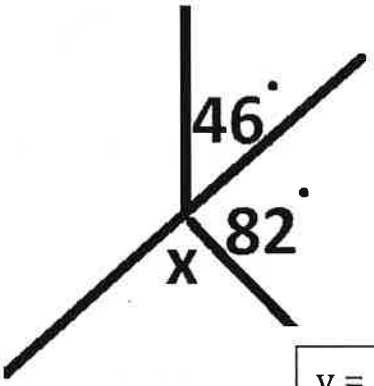
R =

6. What is the measure of angle M?



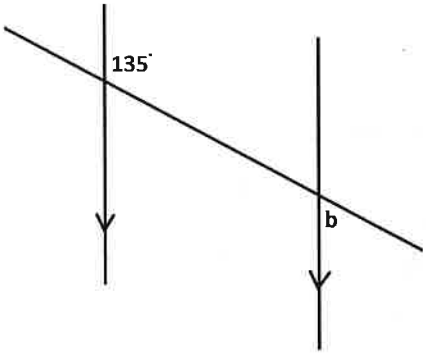
M =

7. What is the measure of angle y?



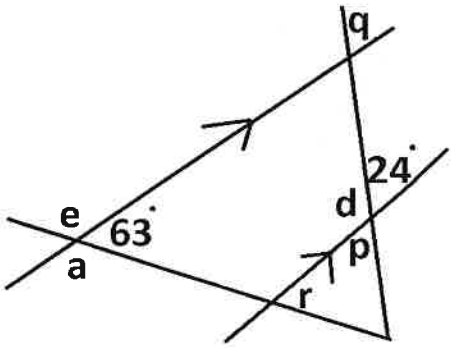
y =

8. What is the measure of angle b?



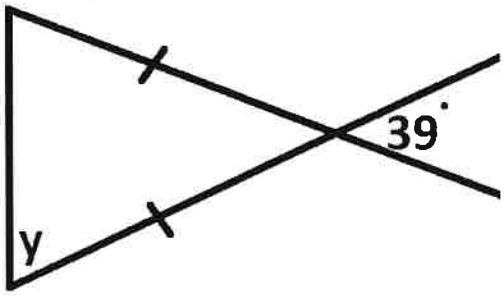
b =

9. What is the measure of angle q?



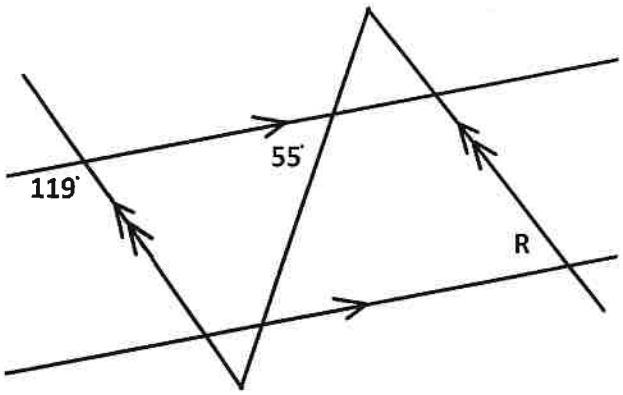
q =

10. What is the measure of angle y?

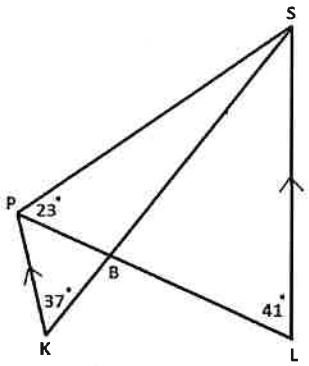


y =

11. What is the measure of angle R?



12.



∠PSL =

12. Find the sum of the angles in a polygon with 11 sides (show your work). [1 mark]

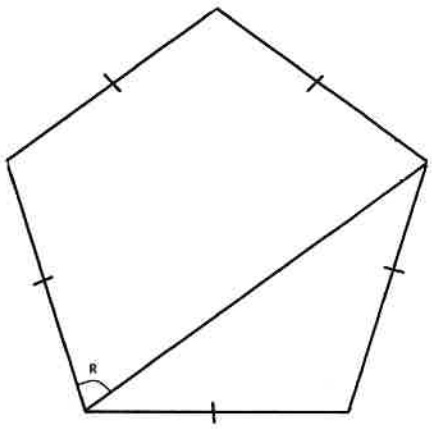
R =

13. How many sides must a polygon have if the sum of its int is 2300° (show your work).

14. A *regular* polygon has 12 sides. What is the measure of *each* of its angles? (show your work).

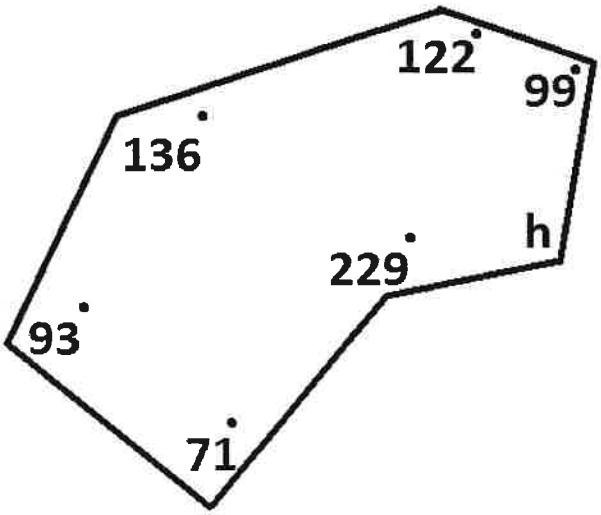
15. Each interior angle of a *regular* polygon measure 142°. H sides does it have?
[3 marks]

16. What is the value of angle R?



R =

17. What is the measure of angle h?

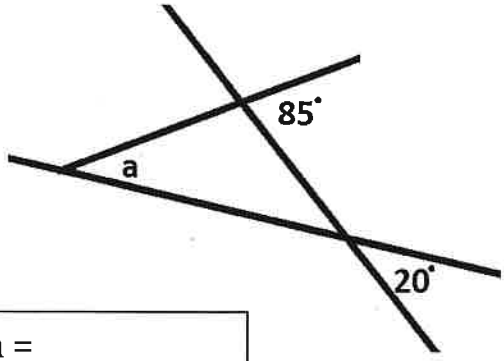


h =

Math 11 Foundations Reasoning with Angles and Triangles Review

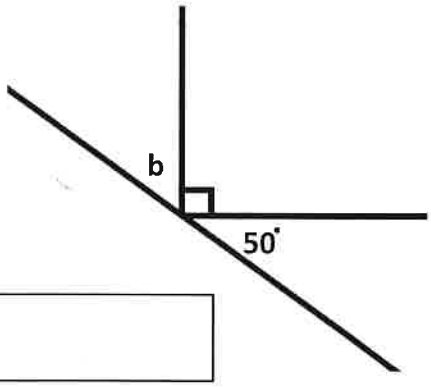
Diagrams not to scale. All questions worth 2 marks unless otherwise stated. Show all work!

1. What is the measure of angle a?



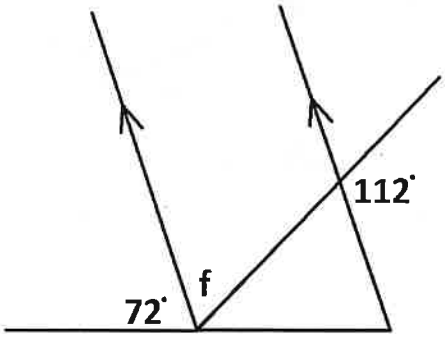
a =

2. What is the measure of angle b?



b =

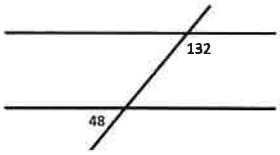
3. What is the measure of angle f?



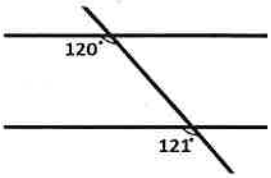
f =

4. Which of the following have parallel lines?

A.

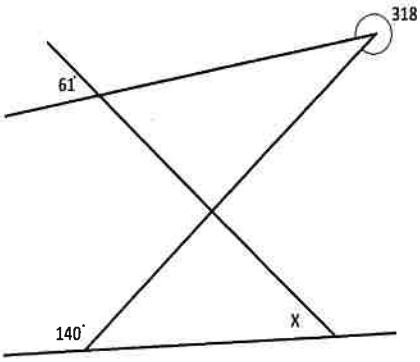


B.



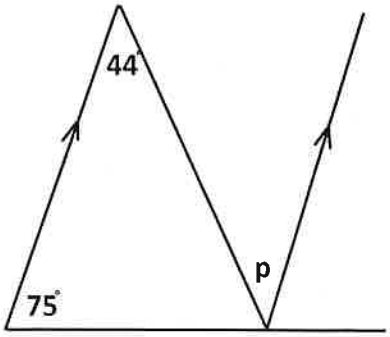
a. A has parallel lines
b. B has parallel lines
c. A *and* B have parallel lines
d. *Neither* has parallel lines

5. What is the measure of angle X?



x =

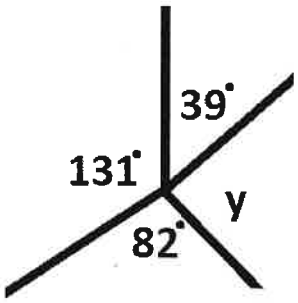
6. What is the measure of angle P?



P =

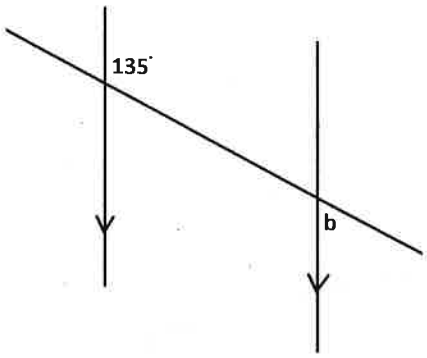
$$180(n-2) \qquad 180 - \frac{360}{n}$$

7. What is the measure of angle y?



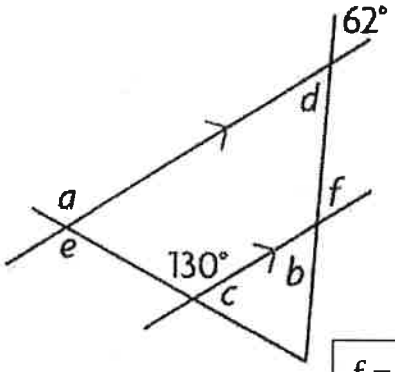
y =

8. What is the measure of angle b?



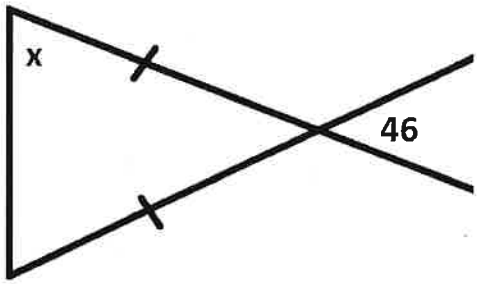
b =

9. What is the measure of angle f?



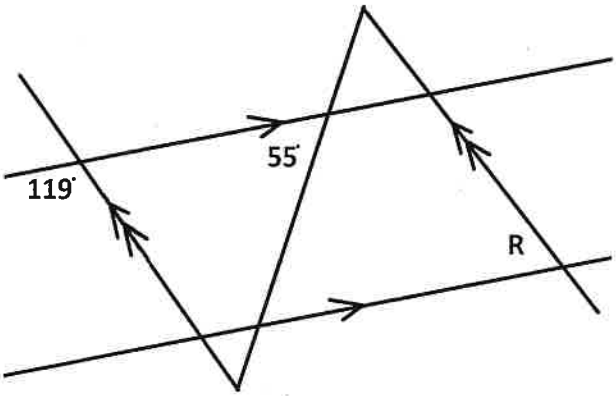
f =

10. What is the measure of angle x?



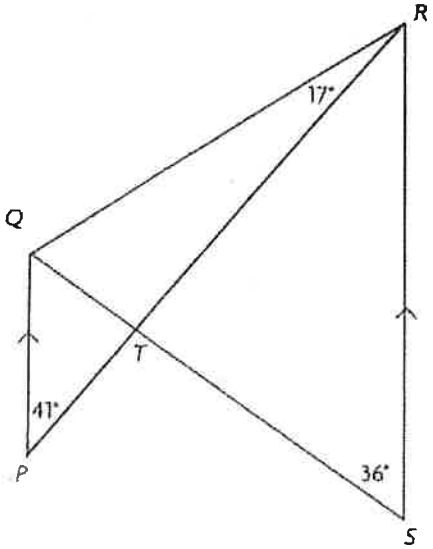
x =

11. What is the measure of angle R?



R =

12. Determine the measure of $\angle QRS$.



$\angle$QRS =

$$180(n-2) \qquad 180 - \frac{360}{n}$$

13. Find the sum of the angles in a polygon with 13 sides (show your work). [1 mark]

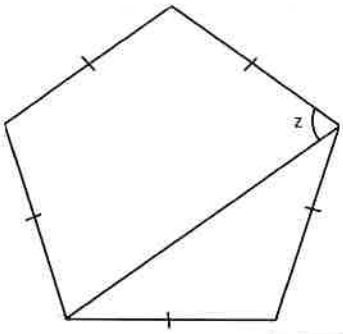
14. How many sides must a polygon have if the sum of its interior angles is 2700° (show your work).

15. A *regular* polygon has 12 sides. What is the measure of *each* of its angles? (show your work).

16. Each interior angle of a *regular* polygon measure 165°. How many sides does it have? [3 marks]

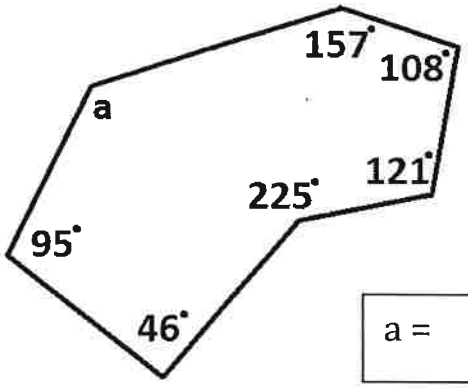
$$180(n-2) \qquad 180 - \frac{360}{n}$$

17. What is the value of angle z?



z =

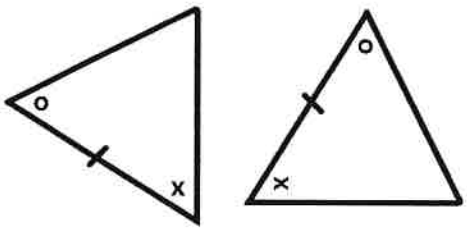
18. What is the measure of angle a?



a =

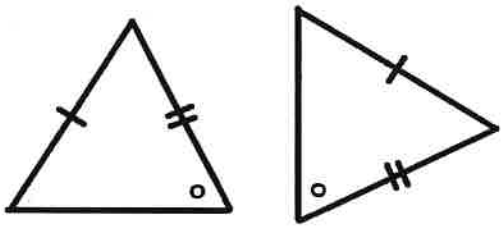
19. Using the information given, are the triangles congruent (y/n)?

State the congruence condition (eg. SAS)



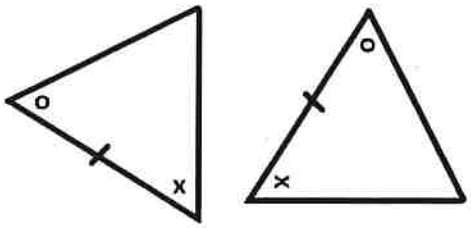
20. Using the information given, are the triangles congruent (y/n)?

State the congruence condition (eg. SAS)



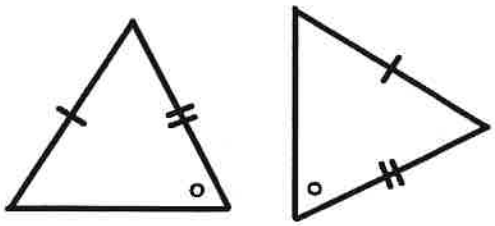
18. Using the information below, are the triangles congruent (y/n)?

State the congruence condition (eg. SAS)



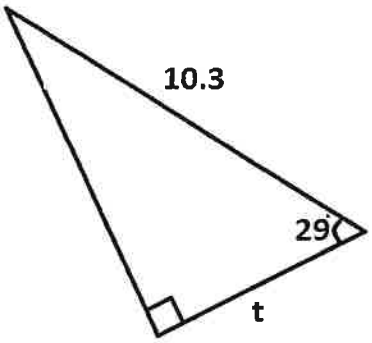
19. Using the information given, are the triangles congruent (y/n)?

State the congruence condition (eg. SAS)



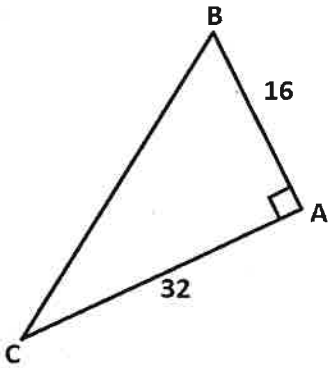
Diagrams not to scale. All questions worth 2 marks unless otherwise stated. Show all work!

20. Find the value of t. Round to the nearest tenth.



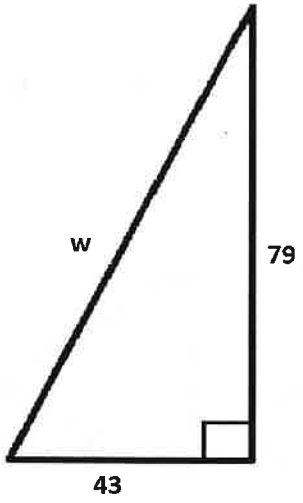
t =

21. Find angle C. Round to the nearest degree.



∠C =

22. Find the value of w. Round to the nearest tenth.



w =

23. For each of the following indicate if it is true for ALL triangles or only for RIGHT triangles.

Cosine Law _____

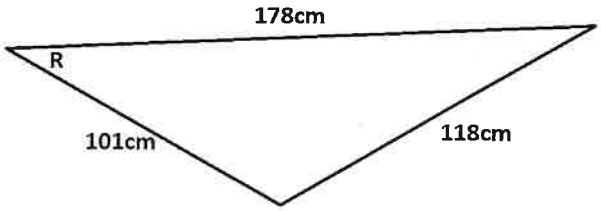
Sine Law _____

Angles add to 180° _____

SOH CAH TOA _____

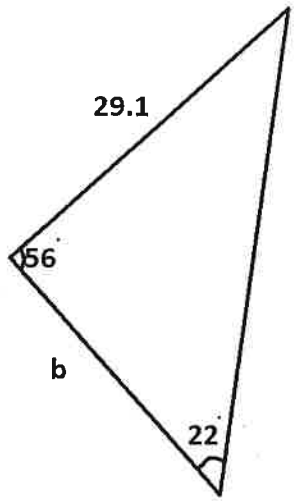
Pythagorean Theorem _____

24. Find angle R. Round to the nearest degree.



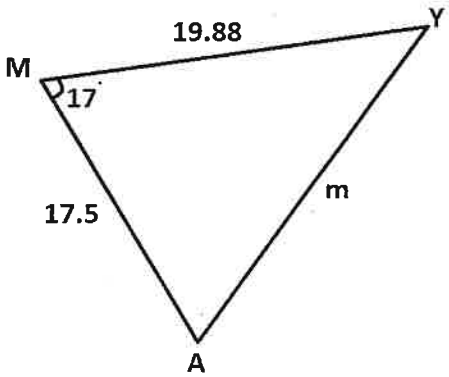
∠R =

25. Find the value of b. Round to the nearest tenth.



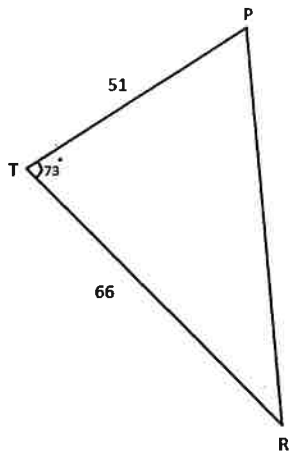
b =

26. Find side length m. Round to the nearest degree.



m=

27. Find the length of side t. Round to the nearest tenth.



t =

WORD PROBLEMS

28. Two hikers begin at the same camp. One walks 7km at a bearing of 150°. The other walks 9km at a bearing of 220°. After 2 hours, how far apart are the two hikers?

29. On a map, Victoria is 12 cm away from Vancouver. Nanaimo is 11 cm from Victoria. Nanaimo and Vancouver are 5 cm apart. What is the angle at Victoria?

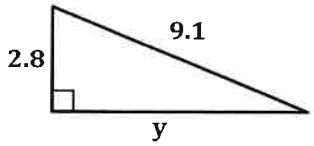
30. The angle of depression from a plane to an airport runway is 13°. After flying another 1600 meters toward the airport, the new angle of depression is 16°. What is the altitude of the plane (its height about the ground).

Is your calculator in "Deg" mode?

Math 11 Foundations Trigonometry Review

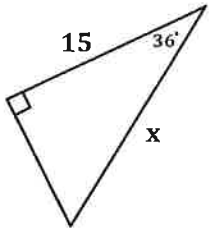
Diagrams not to scale. Show all work!

1. Find the value of y. Round to the nearest tenth.



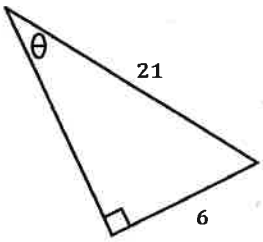
y =

2. Find the value of x. Round to the nearest tenth.



x =

3. Find angle θ. Round to the nearest degree.



∠θ =

4. For each of the following indicate if it is true for ALL triangles or only for RIGHT triangles.

Cosine Law _____

Sine Law _____

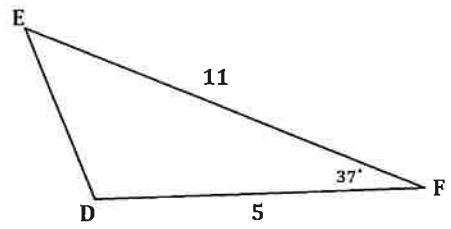
SOH CAH TOA _____

Pythagorean Theorem _____

Angles add to 180° _____

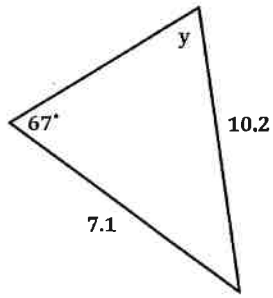
$$\frac{SinA}{a} = \frac{SinB}{b} \qquad \frac{a}{SinA} = \frac{b}{SinB} \qquad a^2 = b^2 + c^2 - 2bcCosA \qquad CosA = \frac{b^2 + c^2 - a^2}{2bc}$$

5. Find the length of DE. Round to nearest degree.



DE =

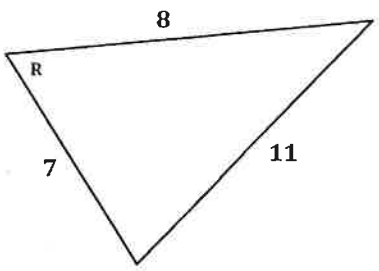
6. Find the value of angle y. Round to the nearest degree.



y =

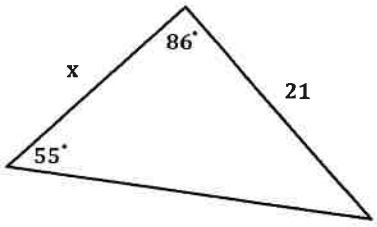
$$\frac{SinA}{a} = \frac{SinB}{b} \qquad \frac{a}{SinA} = \frac{b}{SinB} \qquad a^2 = b^2 + c^2 - 2bcCosA \qquad CosA = \frac{b^2 + c^2 - a^2}{2bc}$$

7. Find angle R. Round to the nearest degree.



R =

8. Find the length of side x. Round to the nearest tenth.



x =

$$\frac{SinA}{a} = \frac{SinB}{b} \qquad \frac{a}{SinA} = \frac{b}{SinB} \qquad a^2 = b^2 + c^2 - 2bcCosA \qquad CosA = \frac{b^2 + c^2 - a^2}{2bc}$$

9. A person looks up from the ground and measures the angle to the top of a building as 75°. After walking directly away from the building for 45 meters, the angle is now 62°. How tall is the building? Round to the nearest tenth.

10. Two golfers start at the same location. One hits a golf ball 170 yards on a bearing of 50°. The other hits their golf ball 190 yards on a bearing of 110°. How far apart are the two golf balls? Round to the nearest tenth.

11. John is 13m away from you. George is 9m away from you. John and George are 5m apart from each other. What is the angle you measure between John and George? Give your answer to the nearest tenth of a degree.

Math 11 Foundations Statistics Review

Show all work!

1. Find the mean, median, mode, and range of the following data [1 mark each. 4 in total]

$$11, 16, 16, 12, 19, 8, 15, 20$$

Mean =

Median =

Mode =

Range =

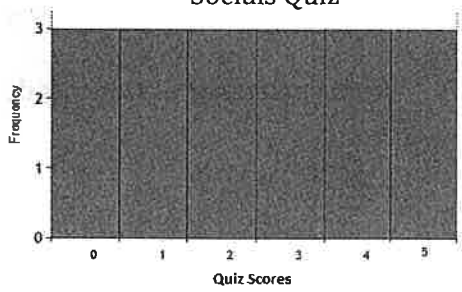
2. Jason scores 84% his first test and 79% on his second. What score does Jason need on his third test to have an average (mean) of 86%? Show your work

   [1 mark for method; 1 mark for answer]

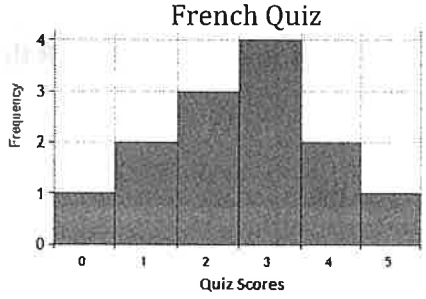
3rd test % =

3. Which quiz has the greater standard deviation? (Circle one) [1 mark]

Socials Quiz



French Quiz



$$z = \frac{x - \mu}{\sigma}$$

4. In a normal distribution, what percentage of scores are below the mean? [1 mark]

5. In a normal distribution, approximately what percentage of scores are within one standard deviation of the mean? [1 mark]

6. The scores on a provincial exam are normally distributed. A student's score was 58% and the average was 67%. If the standard deviation was 6, what was the student's z-score? [2 marks]

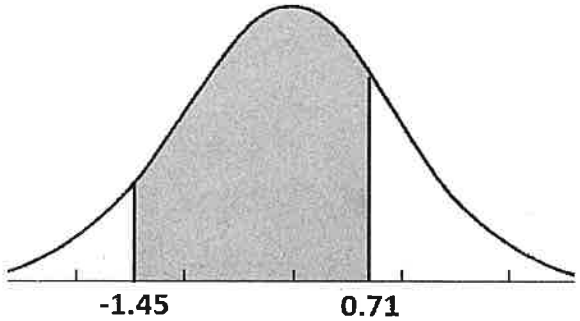
What percentage of students do we expect to score LOWER than the student above? [1 mark]

What percentage of students do we expect to score HIGHER than the student above? [1 mark]

If another student scored better than 99.27% of their peers (in other words, 99.27% of people who wrote the test scored LOWER than this student), what was the student's z-score? [1 mark]

$$z = \frac{x - \mu}{\sigma}$$

7. What percentage of scores fall within the shaded region (between the two scores)? [2 marks]



Answer:

8. In order determine the mean mass of a Pokémon card, sampling is done and the following statement is made by the company.

"The mean mass of a Pokémon card produced at our factory is 3.8 grams ±0.2 grams. The results are accurate 19 times out of 20."

a) Determine the confidence level. [1 mark]

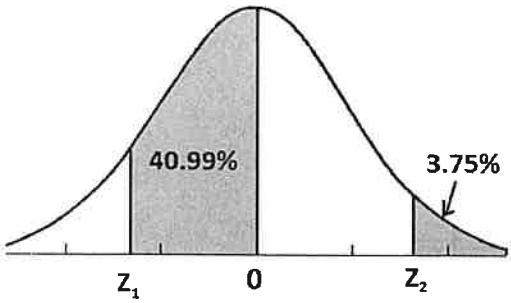
b) Determine the confidence interval. [1 mark]

9. The class average on a test was 78%. Carl scored 66%, which was 1.5 standard deviations below the mean. What was the standard deviation? [2 marks: 1 for formula/steps, 1 for answer]

Answer:

$$z = \frac{x - \mu}{\sigma}$$

10. What are Z_1 and Z_2? [2 marks]



Z_1 =

Z_2 =

11. In order to be a candidate for the R.C.M.P., recruits are given a stress test. The scores are normally distributed with a mean of 72 and a standard deviation of 7. If just the top 20% of recruits are selected. Determine the minimum score needed on the test.

12. From the stress test above, 300 R.C.M.P. recruits are selected. Their heights form a normal distribution with a mean of 175 cm and a standard deviation of 6 cm. How many of the officers are between 167 and 178 cm?

31. Find the mean, median, mode, and range of the following data [1 mark each. 4 in total]

13, 15, 15, 14, 18, 7, 14, 21

Mean =

Median =

Mode =

Range =

32. Jason scores 79% his first test and 85% on his second. What score does Jason need on his third test to have an average (mean) of 86%? Show your work
[1 mark for method; 1 mark for answer]

3rd test % =

33. In a normal distribution, what percentage of scores are below the mean? [1 mark]

34. In a normal distribution, approximately what percentage of scores are within one standard deviation of the mean? [1 mark]

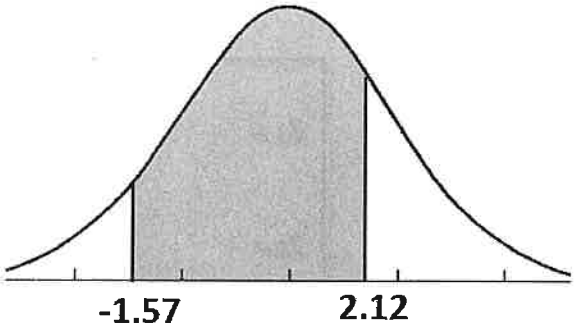
35. The scores on a provincial exam are normally distributed. A student's score was 68% and the average was 71%. If the standard deviation was 7, what was the student's z-score? [2 marks]

What percentage of students do we expect to score LOWER than the student above? [1 mark]

What percentage of students do we expect to score HIGHER than the student above? [1 mark]

If another student scored better than 97.21% of their peers (in other words, 97.21% of people who wrote the test scored LOWER than this student), what was the student's z-score? [1 mark]

36. What percentage of scores fall within the shaded region (between the two scores)? [2 marks]



Answer:

37. In order determine the mean mass of a Pokémon card, sampling is done and the following statement is made by the company.

"The mean mass of a Pokémon card produced at our factory is 4.2 grams ±0.5 grams. The results are accurate 18 times out of 20."

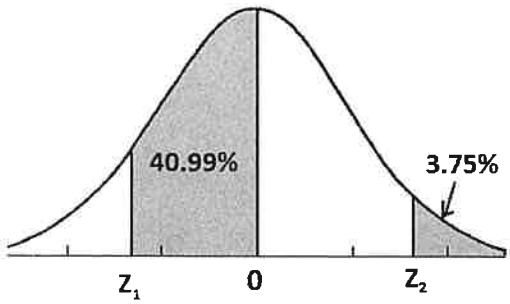
a) Determine the confidence level. [1 mark]

b) Determine the confidence interval. [1 mark]

38. The class average on a test was 92%. Tintin scored 88%, which was 1.5 standard deviations below the mean. What was the standard deviation? [2 marks: 1 for formula/steps, 1 for answer]

Answer:

39. What are Z_1 and Z_2? [2 marks]



Z_1 =

Z_2 =

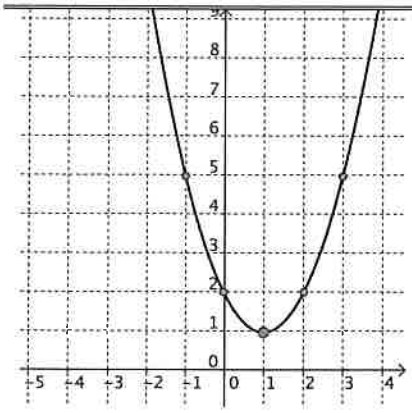
40. In order to be a candidate for the R.C.M.P., recruits are given a stress test. The scores are normally distributed with a mean of 72 and a standard deviation of 7. If just the top 20% of recruits are selected. Determine the minimum score needed on the test.

41. From the stress test above, 300 R.C.M.P. recruits are selected. Their heights form a normal distribution with a mean of 175 cm and a standard deviation of 6 cm. How many of the officers are between 166 and 178 cm?

Quadratic Functions Review

Instructions:

1. Complete and correct all questions in column's 1 and 2.
2. If you make an error in column 1 or 2, complete the corresponding question in that row in column 3.



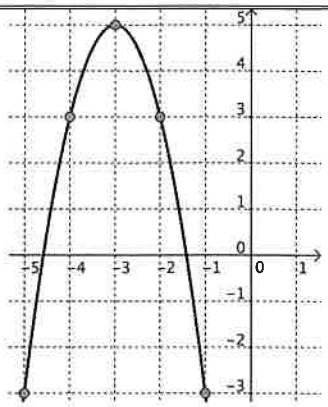
1. Vertex:

2. Maximum or Minimum:

3. Axis of symmetry:

4. Range:

5. Equation: $y=a(x-p)^2+q$:



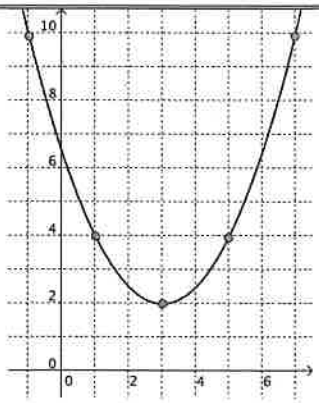
6. Vertex:

7. Direction of opening:

8. Axis of symmetry:

9. Domain:

10. Equation: $y=a(x-p)^2+q$:



11. Vertex:

12. Maximum or Minimum:

13. Axis of symmetry:

14. Range:

15. Equation: $y=a(x-p)^2+q$:

16. Which of the following are quadratic functions?

A. $y=x^2(1+x)$

B. $y=5(1+x^2)+1$

C. $y=5x+3^2$

17. If the vertex of a parabola is $(-6,4)$, state the axis of symmetry.

18. If range of a parabola is $y\geq 5$, write a possible vertex.

19. Determine the x and y intercepts of $y=x^2+3x-4$.

20. Determine the x and y intercepts of $y=x^2+8x+12$.

21. Determine the x and y intercepts of $y=x^2-6x$.

22. If $a > 1$ then the graph of $y = ax^2$:

A. Reflects over the x-axis,
B. Vertically expands,
C. Vertically compresses

23. If $0 < a < 1$ then the graph of $y = ax^2$:

A. Reflects over the x-axis,
B. Vertically expands,
C. Vertically compresses

24. If $a < 0$ then the graph of $y = ax^2$:

A. Reflects over the x-axis,
B. Vertically expands,
C. Vertically compresses

25. Which one of the following graphs would look the widest?

A. $y = 4x^2$

B. $y = \frac{7}{2}x^2$

C. $y = 0.7x^2$

26. Which one of the following graphs is the most vertically expanded?

A. $y = \frac{1}{4}x^2$

B. $y = x^2$

C. $y = \frac{2}{3}x^2$

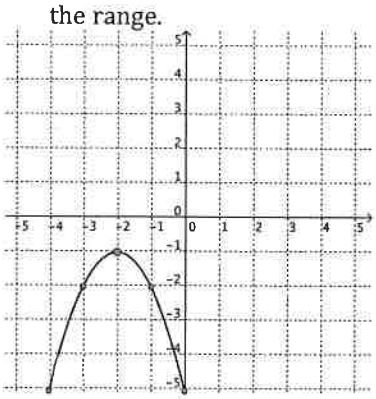
27. Which one of the following graphs would look the narrowest?

A. $y = -\frac{4}{5}x^2$

B. $y = -2x^2$

C. $y = -\frac{11}{2}x^2$

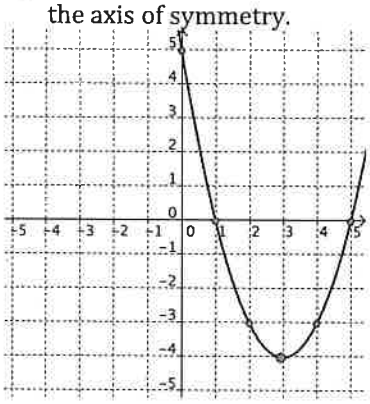
28. Write the equation and state the range.



A. Equation:

B. Range:

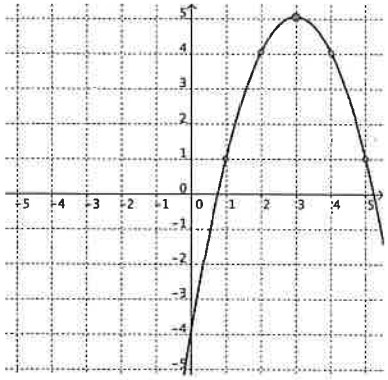
29. Write the equation and state the axis of symmetry.



A. Equation:

B. Axis of symmetry:

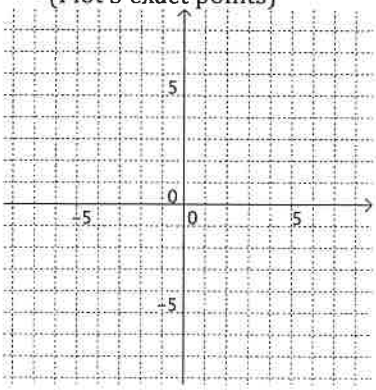
30. Write the equation and state the domain.



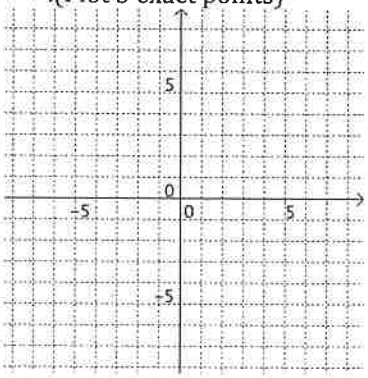
A. Equation:

B. Domain:

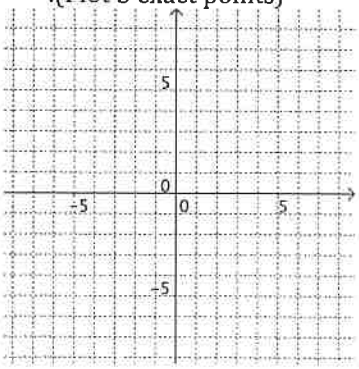
31. Graph $y = 2(x-1)^2 - 7$.
(Plot 5 exact points)



32. Graph $y = -\frac{1}{2}(x-1)^2 + 2$
.(Plot 5 exact points)



33. Graph $y = -\frac{1}{3}(x-2)^2 + 6$
.(Plot 5 exact points)



34. Determine the y and x-intercepts. Round your answer to the nearest tenth where appropriate.

$y=(x+3)^2-1$

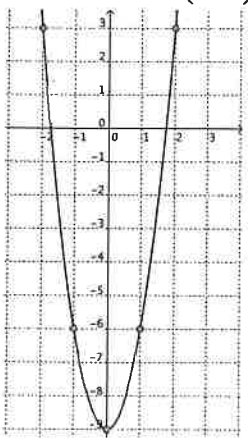
35. Determine the y and x-intercepts. Round your answer to the nearest tenth where appropriate.

$y=2(x-1)^2-5$

36. Determine the y and x-intercepts. Round your answer to the nearest tenth where appropriate.

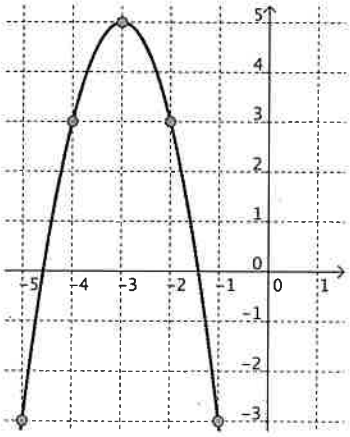
$y=-(x-2)^2+4$

37. Write the equation in the form $y=a(x-p)^2+q$.



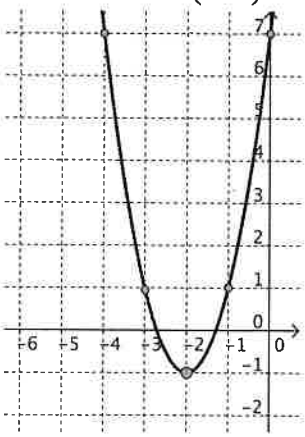
Equation:

38. Write the equation in the form $y=a(x-p)^2+q$.



Equation:

39. Write the equation in the form $y=a(x-p)^2+q$.



Equation:

40. Write the equation of a parabola with an axis of symmetry of $x=-1$, a maximum value of 8 and vertically compressed by a factor of $\frac{1}{3}$.

41. Write the equation of a parabola with a vertex (-1,2) and that is congruent to $y=-\frac{3}{4}x^2$ and opens down.

42. Write the equation of a parabola with an axis of symmetry of x=8, a minimum value of -4 and vertically compressed by a factor of $\frac{2}{5}$.

43. Given $y=2(x-10)^2+5$ state the following:

A. Vertex:

B. Max or Min?

C. Range:

D. X-intercepts? Yes or No?

44. Given $y=-\frac{1}{2}(x-1)^2+2$ state the following:

A. Axis of symmetry:

B. Opening; Up or Down?

C. Range:

D. X-intercepts? Yes or No?

45. Given $y=-\frac{1}{3}x^2-4$ state the following:

A. Vertex:

B. Max or Min?

C. Range:

D. X-intercepts? Yes or No?

46. How many x-intercepts will $y=a(x-p)^2+q$ have if a>0 and q=0?

47. How many x-intercepts will $y=a(x-p)^2+q$ have if a>0 and q>0?

48. How many x-intercepts will $y=-2(x-5.5)^2+1$ have ?

49. Write the equation of a parabola with a vertex (3,4) and passes through the point (2,-7).

50. Write the equation of a parabola with a vertex (-2,5) and a y intercept of 4.

51. Write the equation of a parabola with a vertex (-2,-1) and passes through the point (6,0).

52. A model rocket is launched at 19.6 meters per second (m/s) from a 58.8-meter tall platform. The equation for the object's height h at time t seconds after launch is

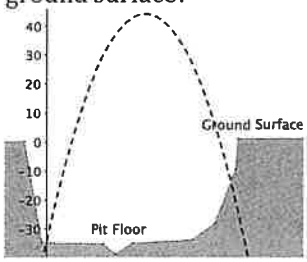
$h = -4.9t^2 + 19.6t + 58.8$

where h is in meters. How long until the rocket hits the ground?

53. An object is launched from the bottom of pit 33.6 meters below the ground surface, directly upward at 38.4 m/s. The equation for the object's height h at time t seconds after launch is

$h = -4.8t^2 + 38.4t - 33.6$,

where h is in meters. For how long is the object at or above the ground surface?



54. A twig is tossed upward into the air and follows the pathway $h = -t^2 + 7t + 9$, where h is in feet and t is in seconds. How long will it take the projectile to hit the ground?

55. A rectangular field beside a river is to be fenced by 120 meters of fencing. No fence is needed along the riverbank. Create an equation that maximizes its area.

56. A fence is to enclose a field and divide it into 3 equal areas. If 2400 m of fencing is available, create an equation that maximizes its area.

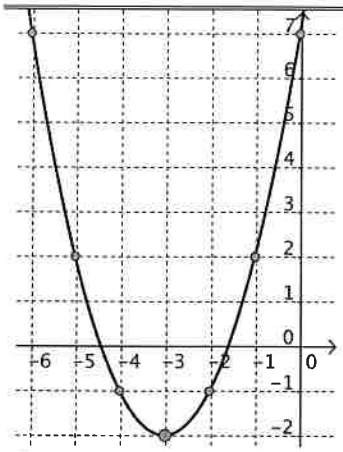
57. What is the maximum rectangular area that can be enclosed using 60m of fencing? Create an equation that maximizes its area.

58. Calculators are sold to students for 10 dollars each. Two hundred students are willing to buy them at that price. For every 1 dollar increase in price, there are 10 fewer students willing to buy the calculator. Create an equation to find the selling price that will maximize the revenue.

59. A magazine has a circulation of 100 000 per month when they charge $2.00 for a magazine. For each $.10 increase in price, 5 thousand sales are lost. Create an equation to find out how much should be charged per magazine to maximize the revenue.

Quadratics Functions Review

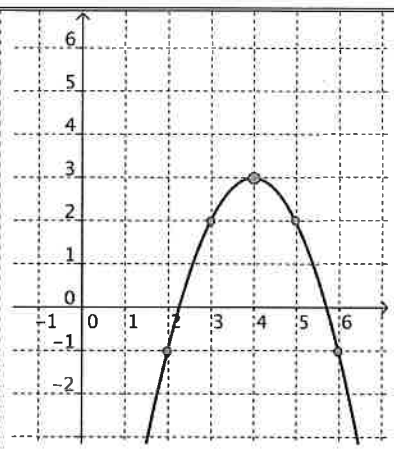
Show all appropriate work in a neat and orderly manner.



1. Write the equation in the form $y=a(x-p)^2+q$:

2. Axis of symmetry:

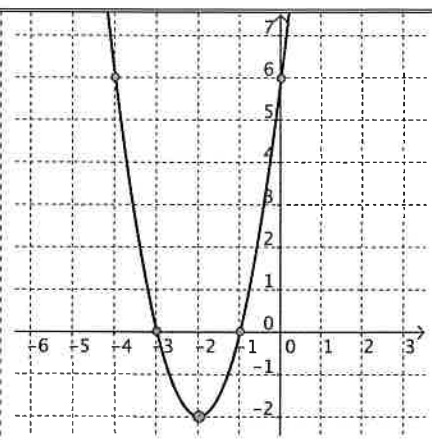
3. Vertex:



4. Write the equation in the form $y=a(x-p)^2+q$:

5. Direction of opening:

6. Domain:



7. Write the equation in the form $y=a(x-p)^2+q$:

8. Maximum or Minimum:

9. Range:

10. If the vertex of a parabola is $(4,11)$, state the axis of symmetry.

11. Which of the following are quadratic functions?

A. $y=x(1+5x)$

B. $y=2(1+x^2)^2-11$

C. $y=9x+3$

12. Write the equation of the parabola with a vertex (-8,1), that is congruent to $y=5x^2$ and opens down.

13. If $a>1$ then the graph of $y=a(x-p)^2+q$:

A. Reflects over the x-axis,

B. Vertically expands,

C. Vertically compresses

14. Which one of the following graphs would look the narrowest?

A. $y=-\frac{5}{18}x^2$

B. $y=-x^2$

C. $y=-\frac{11}{36}x^2$

15. Given $y=-\frac{1}{3}x^2-4$

A. Vertex:

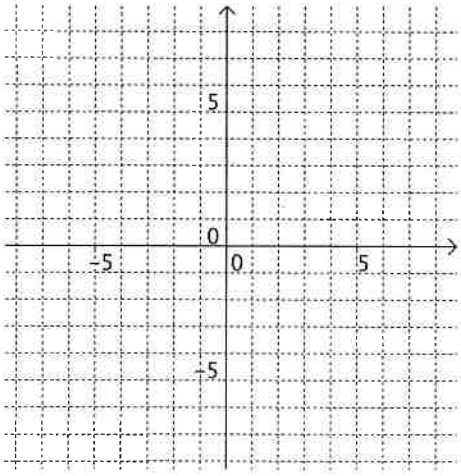
B. Max or Min?

16. Determine the x and y intercepts of
$y = (x-1)^2 - 7$ [3 marks]

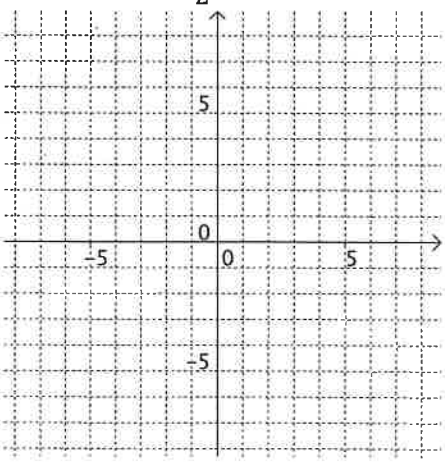
17. Write the equation of a parabola with a vertex (2,3) and passes through the point (4,-1)

/2

18. Graph $y = -(x-5)^2 + 4$ (Plot 5 exact points. /2)

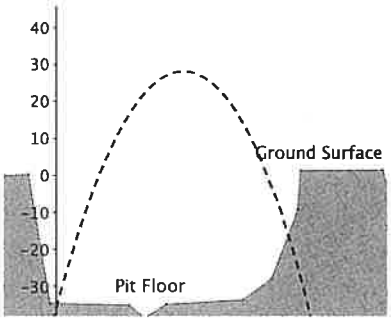


19. Graph $y = -\frac{1}{2}(x-1)^2 + 2$ (Plot 5 exact points. /2)

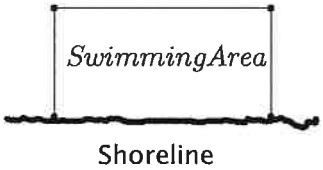


20. How many x-intercepts will $y = a(x-p)^2 + q$ have if a>0 and q<0?

21. An object is launched from the bottom of pit 36 meters below the ground surface, directly upward at 40 m/s. The equation for the object's height h at time t seconds after launch is $h=-4t^2+40t-36$, where h is in meters. For how long is the object at or above the ground surface?



22. 3 lengths of safety-line and the shoreline create a rectangular swimming area along a beach. Write an equation that could be used to find the maximum area that can be enclosed by 500m of safety line.

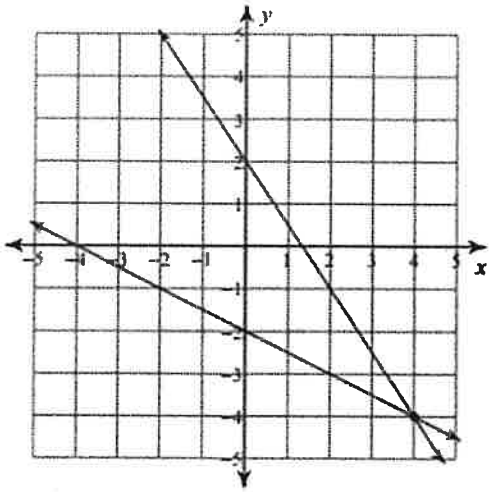


23. If a BMW dealership sets the price of their cars at $40 000 they will sell 50 cars. Every time they increase the price by $1000, 1 less car will be sold. Write as equation that could be used to determine the car price that maximizes the dealership's revenue.

Systems of Equations review

Show all appropriate work in a neat and orderly manner.

1. What is the equation of <u>one</u> of the lines and the solution to the following system? [/2]



Equation of one of the lines (either one):

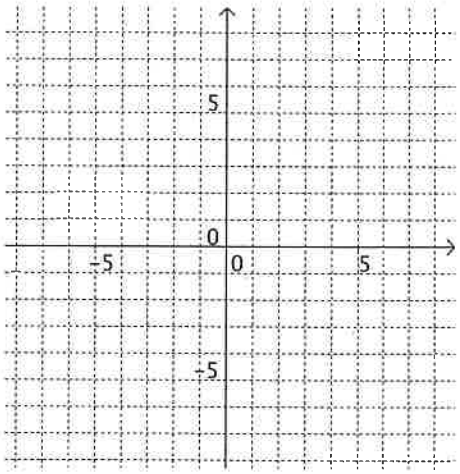
_____

Solution(s): _____

2. Solve the following system by graphing. [/2]

$y = 2x + 1$

$y = -\frac{1}{2}x + 6$

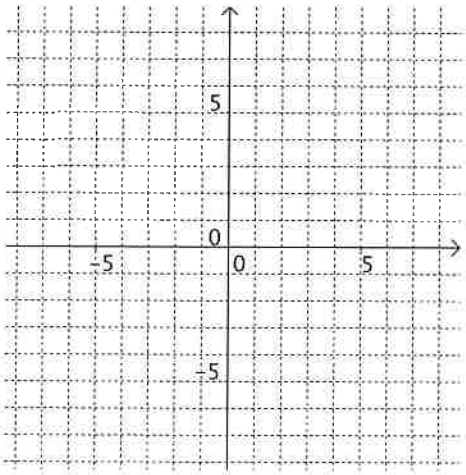


Solution(s): _____

Solve the following system by graphing. [/3]

$6x - 2y = -12$

$y = -x^2 + 4$

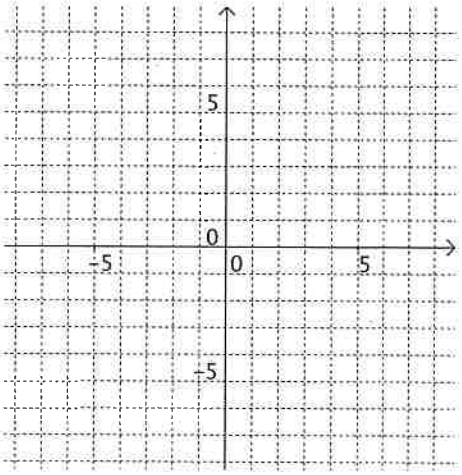


Solution(s): _____

4. Solve the following system by graphing. [/3]

$y = -(x-3)^2 + 7$

$y = x^2 - 2$



Solution(s): _____

5. Is (3,-1) a solution to the following system? [/1]

$2x^2 - y = 17$

$x + y = 2$

Yes or no: _____

6. Is (1,4) a solution to the following system? [/1]

$y = -x^2 + 5$

$y = x^2 + 2x + 1$

Yes or no: _____

7. Solve the following system algebraically. [/4]

$$11 = 5x - y$$

$$-5 = x - 2y$$

Solution(s): _____

8. Solve the following system algebraically. [/4]

$$y = x^2 + 2x$$

$$y = x^2 - 2x + 4$$

Solution(s): _____

9. Solve the following system algebraically. [/5]

$$y = x^2 + 6x + 10$$

$$y = 16x + 34$$

Solution(s): _____

Kuta Software - Infinite Algebra 1

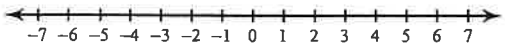
Name_____

Graphing Inequalities

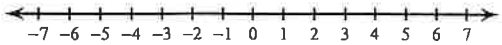
Date_____ Period____

Draw a graph for each inequality.

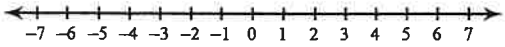
1) $n \leq -5$



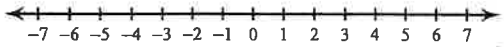
2) $n \leq 5$



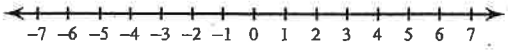
3) $x < 1$



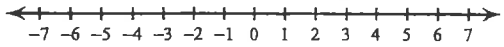
4) $r > 2$



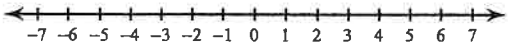
5) $n > 5$



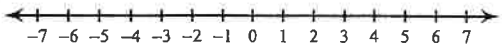
6) $r \leq -2$



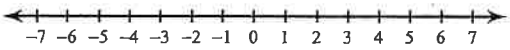
7) $k \leq -2$



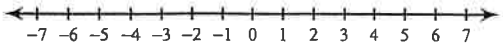
8) $m < -5$



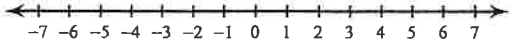
9) $x \geq 2$



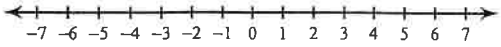
10) $-5 \geq v$



11) $-2 \geq v$

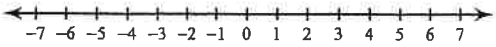


12) $x < 5$

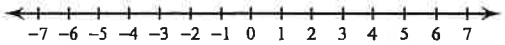


(answers at the back)

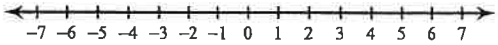
13) $-x \geq 2$



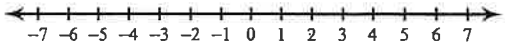
14) $5 \geq -a$



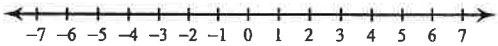
15) $x \leq 2$



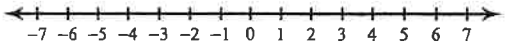
16) $x \leq 5$



17) $-5 > b$

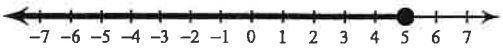


18) $-2 > b$

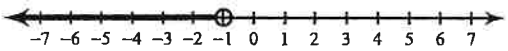


Write an inequality for each graph.

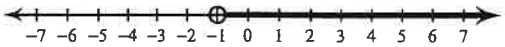
19)



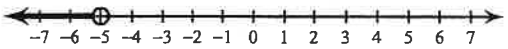
20)



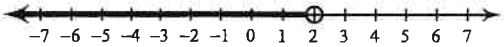
21)



22)



23)



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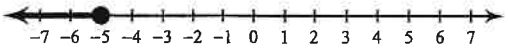


Kuta Software - Infinite Algebra 1

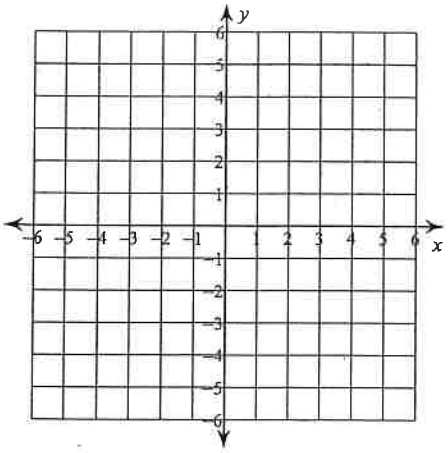
Name_____

Graphing Linear Inequalities

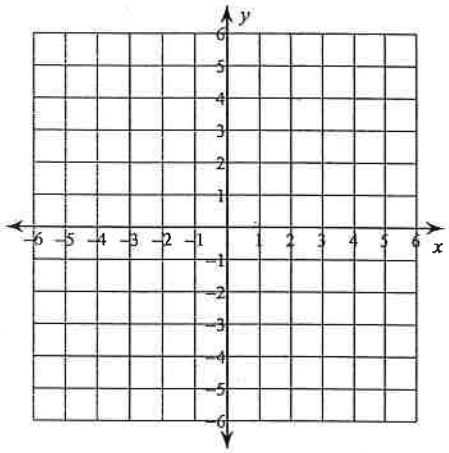
Date_____ Period____

Sketch the graph of each linear inequality.

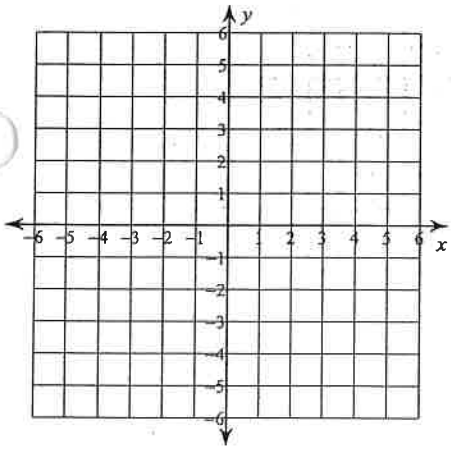
1) $y \geq -3x + 4$



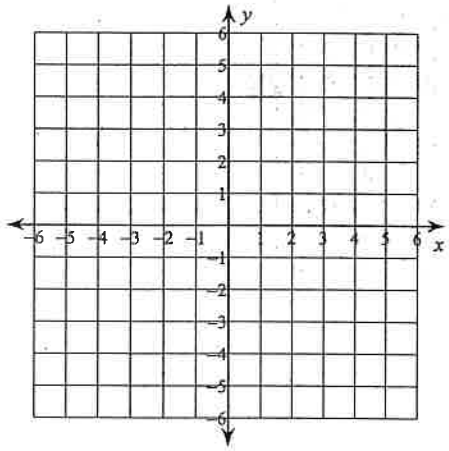
2) $y \leq \frac{3}{5}x - 5$



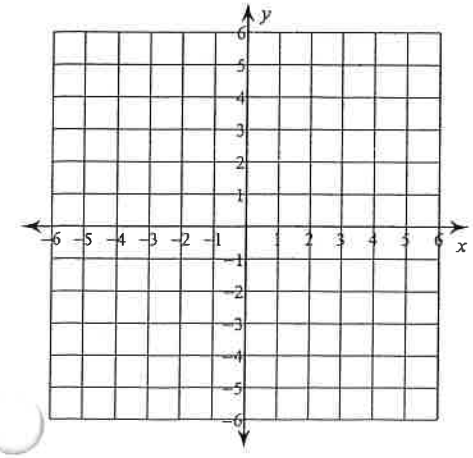
3) $y > -x - 5$



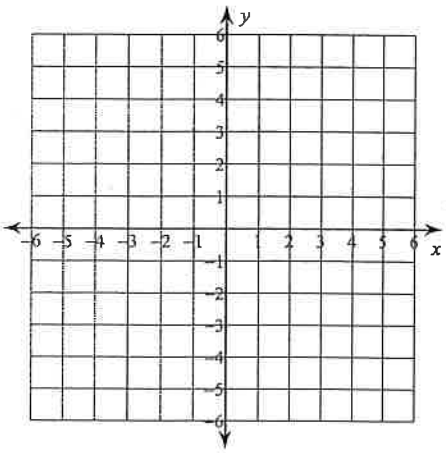
4) $y > -4$



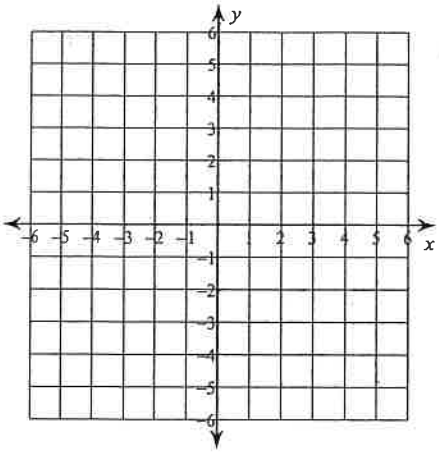
5) $y > 2x - 5$



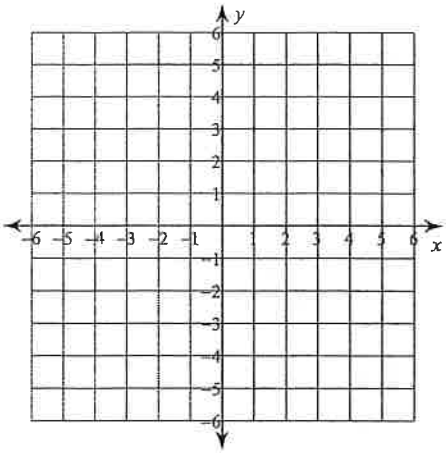
6) $y \geq \frac{7}{4}x + 2$



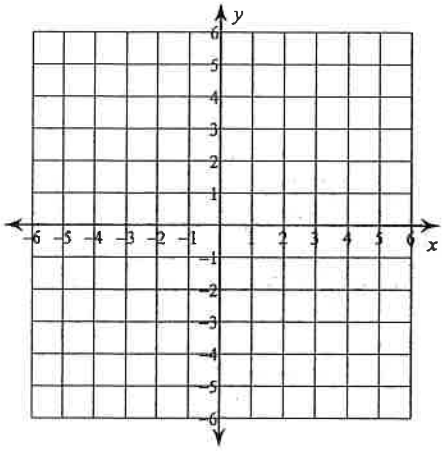
7) $x < -5$



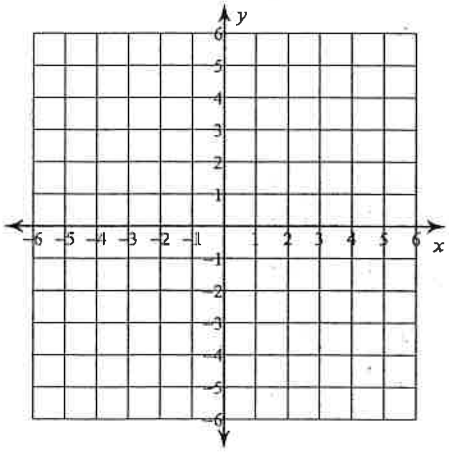
8) $y \le \frac{4}{3}x - 4$



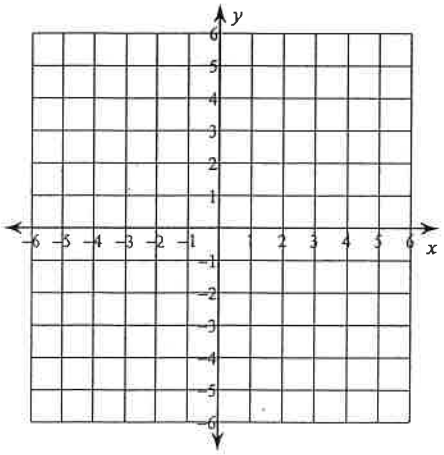
9) $3x - 2y < 10$



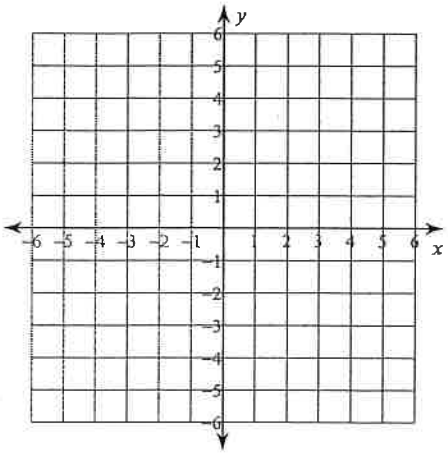
10) $5x - 3y \le -15$



11) $y \ge 4$



12) $x - y > 2$



Kuta Software - Infinite Algebra 2

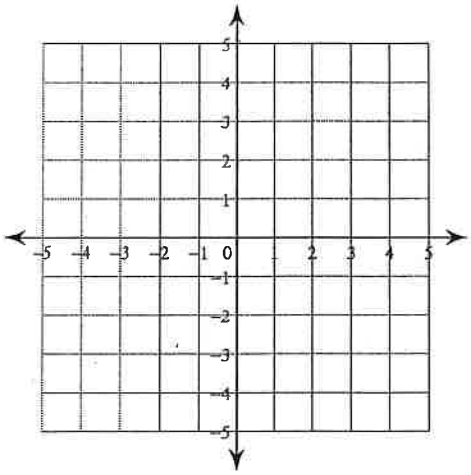
Name_____

Systems of Inequalities

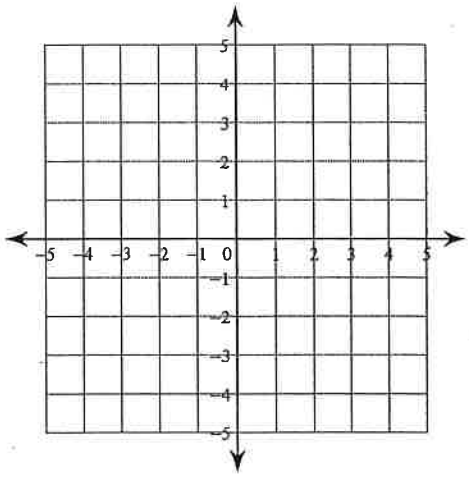
Date_____ Period____

Sketch the solution to each system of inequalities.

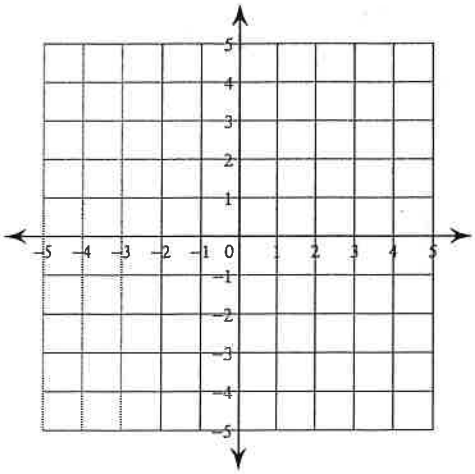
1) $y > 4x - 3$
$y \geq -2x + 3$



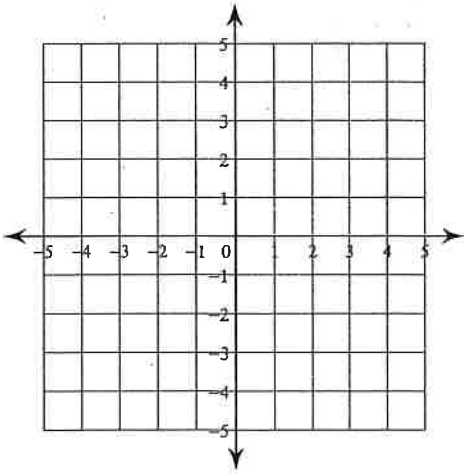
2) $y \geq -5x + 3$
$y > -2$



3) $y < 3$
$y \leq -x + 1$

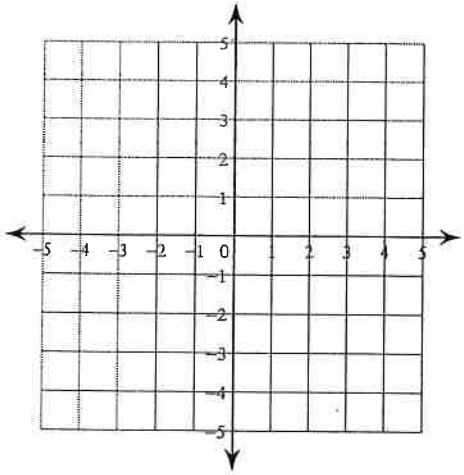


4) $y \geq x - 3$
$y \geq -x - 1$

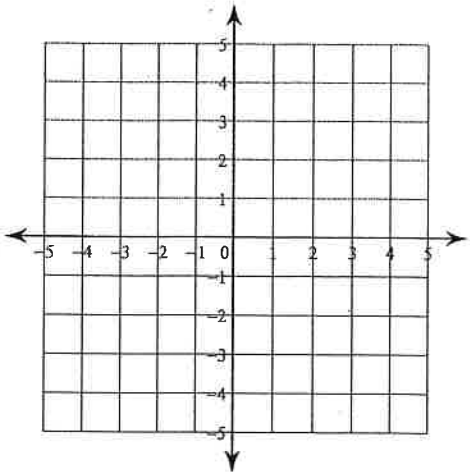


5

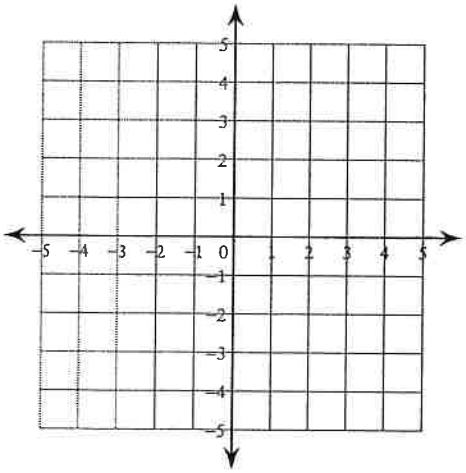
5) $x \le -3$
$5x + 3y \ge -9$



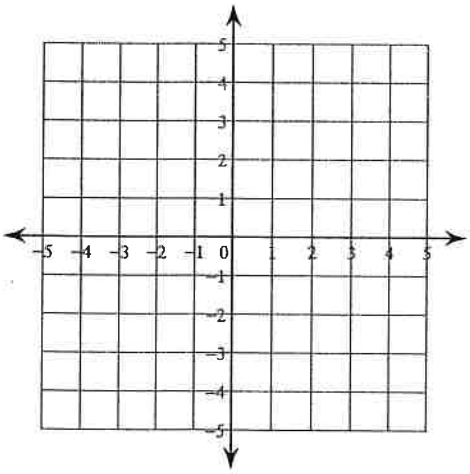
6) $4x - 3y < 9$
$x + 3y > 6$



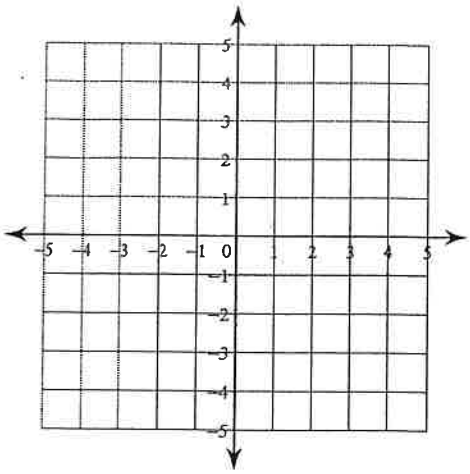
7) $x + y > 2$
$2x - y > 1$



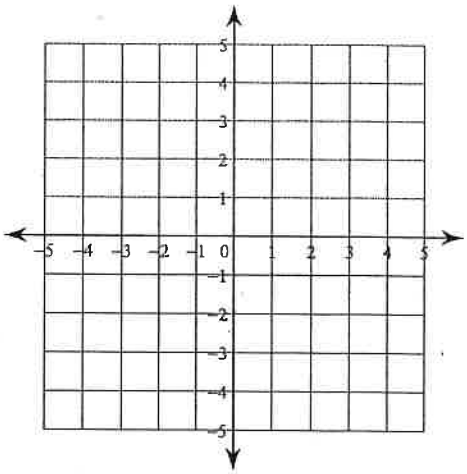
8) $x + y \ge 2$
$4x + y \ge -1$



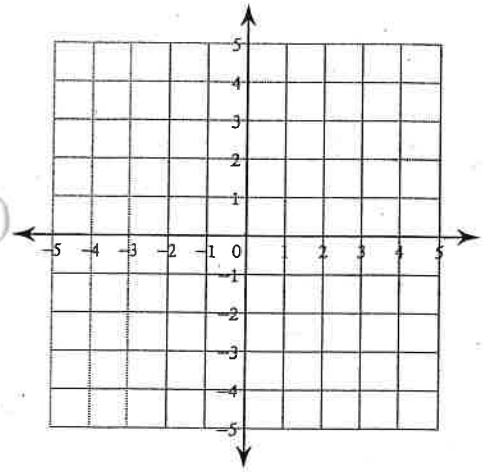
9) $4x + 3y > -6$
$x - 3y \leq -9$



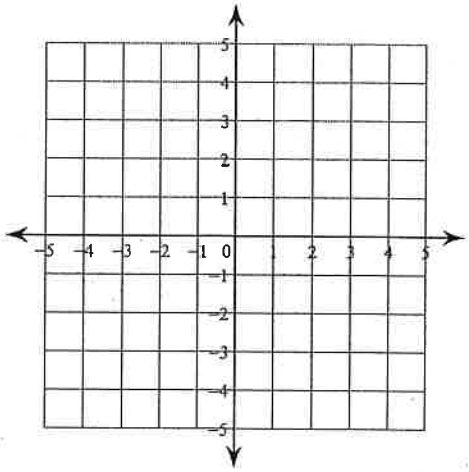
10) $y < -2$
$x + y \geq 1$



11) $3x + y \geq -3$
$x + 2y \leq 4$



12) $x + y \geq -3$
$x + y \leq 3$

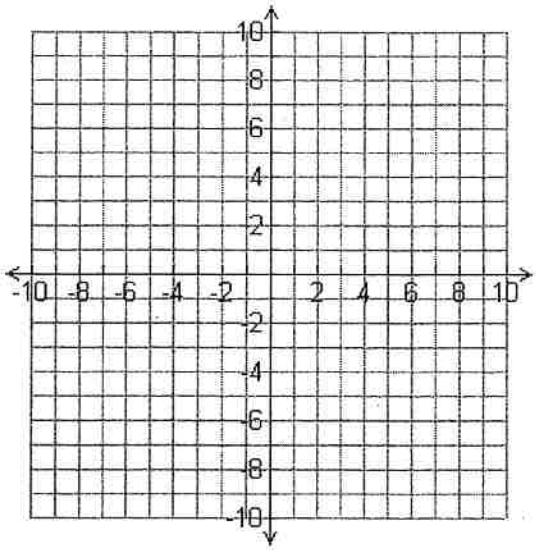


Critical thinking questions:

13) State one solution to the system
$y < 2x - 1$
$y \geq 10 - x$

14) Write a system of inequalities whose solution is the set of all points in quadrant I not including the axes.

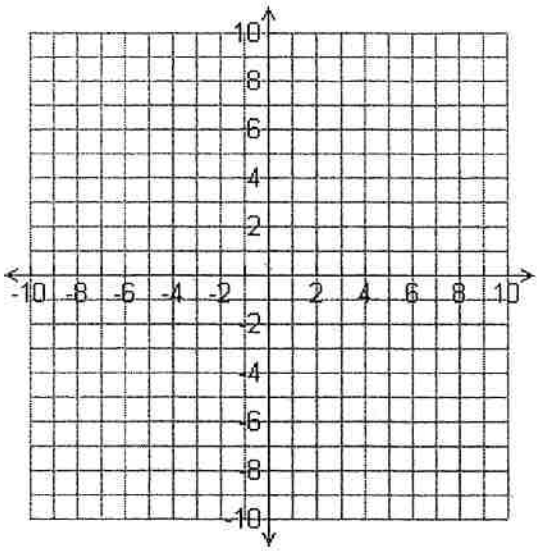
DRAW A GRAPH FOR THE FOLLOWING



$y \geq x^2 - 3$

$y < -x^2 + 5$

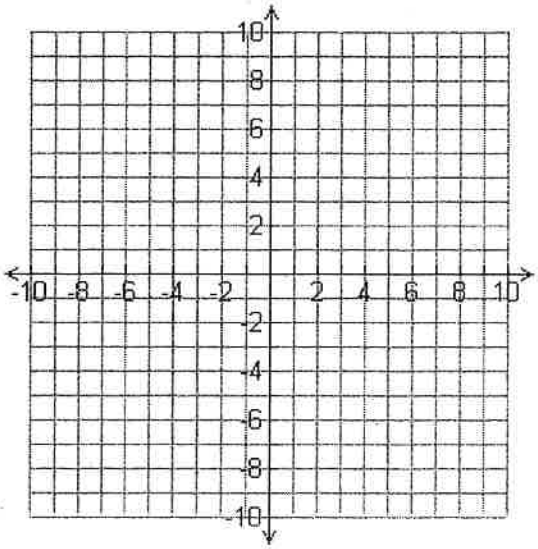
$x \geq -1$



$y < 4$

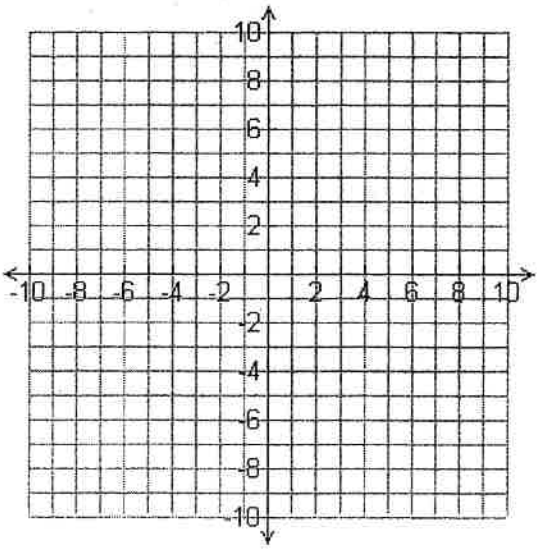
$y \geq (x-2)^2 - 5$

$x < 9$



$y < +(x-3)^2 - 8$

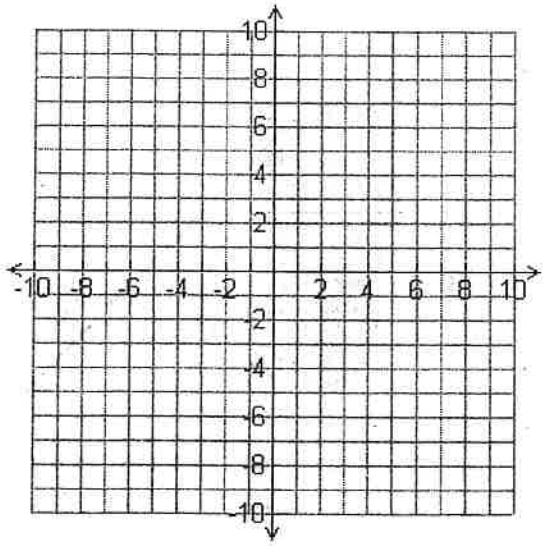
$y < -(x-6)^2 + 1$



$y \geq (x+5)^2 - 7$

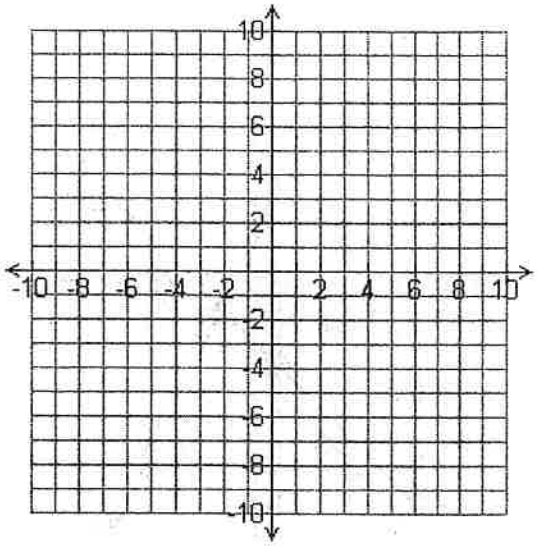
$y < -(x+4)^2 + 4$

$x \leq 0$



$y - 5 > -(x+2)^2$

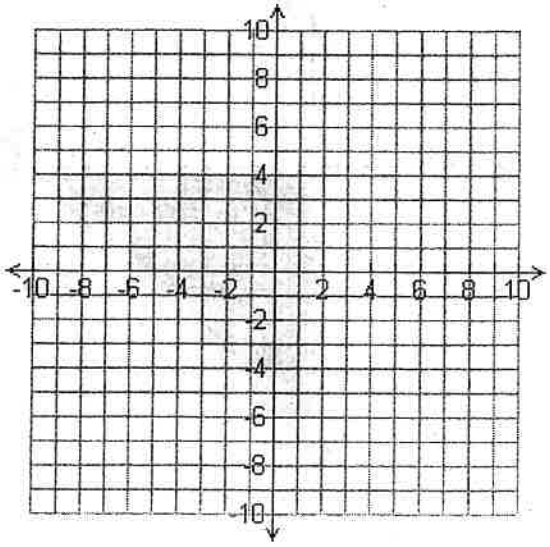
$y \leq 8$



$y < -(x-4)^2$

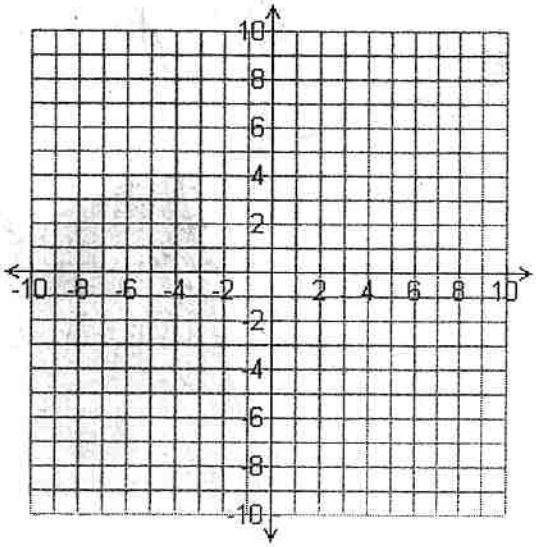
$x \geq 2$

$y \geq -8$



$y > x - 4$

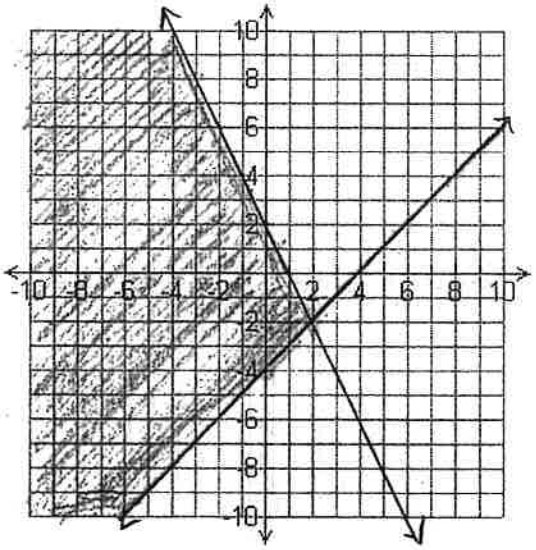
$y < (x-1)^2 + 3$

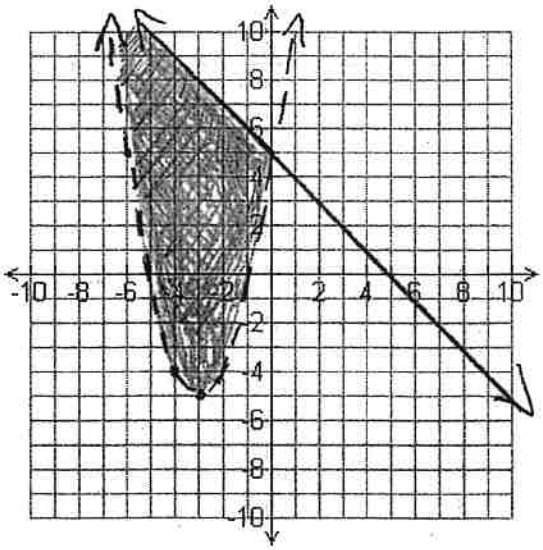


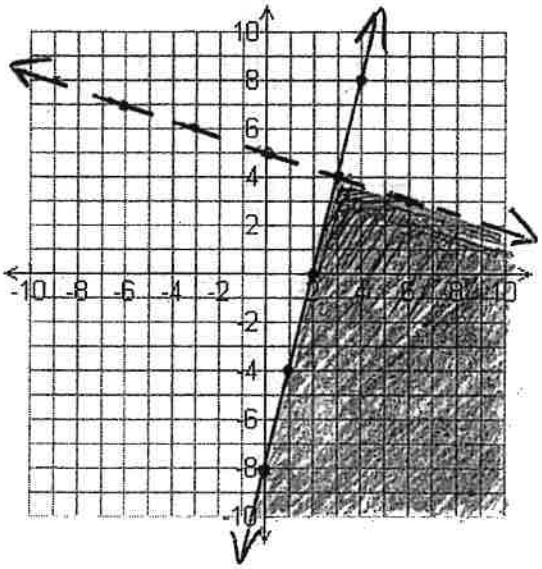
$y \geq x^2 - 8$

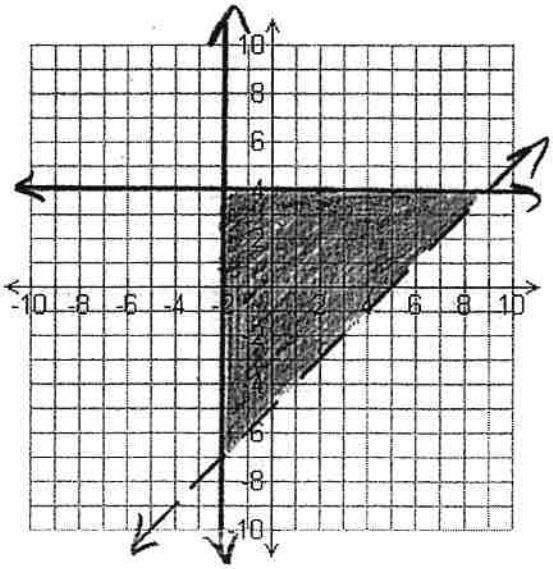
$y \leq x^2$

WRITE EQUATIONS FOR THE GRAPHS.









Math 11 Foundations Measurement Review

Diagrams not to scale. All questions worth 2 marks unless otherwise stated. Show all work!

1. Convert 1,730,000 cm to kilometres.

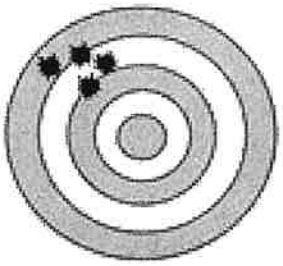
2. Convert 81 mL to L

3. Convert 17 ft to metres.

4. Convert 115 m/h to cm/min [2 marks]

5. Calculate the slope of the line passing through the points $A(-2, 7)$ and $B(9, -4)$

6. How would you describe this person's dart throwing? (circle one)



a) Accurate, but not precise

b) Precise, but not accurate

c) Both accurate and precise

d) Neither accurate nor precise

7. You have two options at the grocery store:

Brand A	4 kg of flour for \$7.50
Brand B	5 pounds of flour for \$5.15

Which one is the better deal? Show your work. [2 marks]

8. A YouTuber had 8400 subscribers in 2015. In 2019 they have 42,800 subscribers. Calculate the average rate of change with appropriate units.

9. A photograph with a length of 12" and a width of 6" is scaled by a factor of 2:3.

   a) Is this an enlargement or reduction?

   b) What are the new dimensions of the picture?

10. A triangular object has a perimeter of 24 m and an area of 15 m^2

   a) What is the new perimeter if a linear scale factor of 3 is applied to it?

   b) What is the new **area** after the linear scale factor of 3 is applied to it?

11. Using the following map, what is the straight line distance to fly from Victoria to Price George? [2 marks]

1cm = 75 km

Measurement

42. Convert 2,330,000 cm to kilometers.

43. Convert 42 mL to L

44. Convert 63 feet to meters.

45. Convert 2,330,000 km to mm.

46. Convert 94 L to mL

47. Convert 22 meters to feet.

48. Convert 225 m/h to cm/min [2 marks]

49. Calculate the slope of the line passing through the points $A(-2, 7)$ and $B(9, -4)$

50. Calculate the slope of the line passing through the points $A(-2, 7)$ and $B(9, -4)$

51. You have two options at the grocery store:

Brand A	6 kg of flour for \$9.50
Brand B	9 pounds of flour for \$7.15

Which one is the better deal? Show your work. [2 marks]

52. A YouTuber had 9900 subscribers in 2014. In 2018 they have 71,900 subscribers. Calculate the average rate of change with appropriate units.

53. A photograph with a length of 10" and a width of 8" is scaled by a factor of 3:2.

a) Is this an enlargement or reduction?

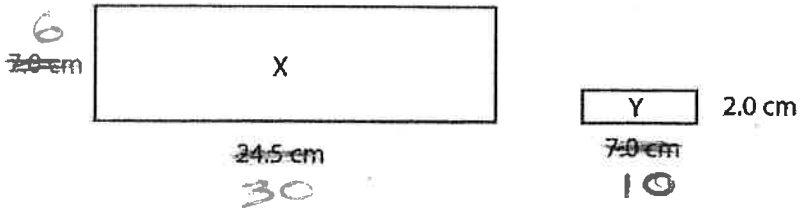
b) What are the new dimensions of the picture?

54. A triangular object has a perimeter of 27 m and an area of 18 m^2

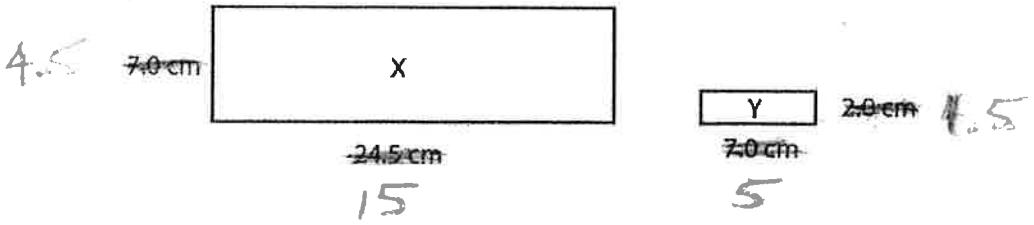
a) What is the new perimeter if a linear scale factor of 3 is applied to it?

b) What is the new **area** after the linear scale factor of 3 is applied to it?

12. Determine the scale factor that was used to transform diagram X into diagram Y. Express your scale factor as a fraction and as a percent to one decimal place.



12. Determine the scale factor that was used to transform diagram X into diagram Y. Express your scale factor as a fraction and as a percent to one decimal place.



7. Use inductive reasoning to test the following conjecture. Tell me if you think it is true or false. If it is false, give me a counter example. [2]

If you square two different numbers and add them together you will get an odd number.

Is it true or false? _____

If false, a counter example is: _____

8. Use inductive reasoning to test the following conjecture. Tell me if you think it is true or false. If it is false, give me a counter example. [2]

If you square any even number and add one you will always have a prime number.

Primes: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97, 101...

Is it true or false? _____

If false, a counter example is: _____

9. Use **deductive** reasoning to prove the following conjecture: [2 marks]

The sum of two even numbers is an even number.

10. Use **deductive** reasoning to prove the following conjecture: [2 marks]

The sum of two consecutive numbers is an odd number.

The circumference of a circle is changed from 8cm to 14 cm. Determine the area scale factor. You may give your answer as a ratio, rational number, or decimal. [2]

$I = Prt$ $\quad$ $A = P(1+i)^n$

Name: _____

Finance Quiz 1 – Interest

Show all work as demonstrated in class. All questions are worth 2 marks.

1. What is the simple interest if there is $815 in an account earning 2.1% for 7 years?

2. If a Canada Savings Bond is worth $6225 after 7 years, and was originally bought for $5000, what was the annual simple interest rate? Answer as a percentage.

3. A savings account has $24,750 in it, earning 1.25% interest, compounded annually for 3 years. How much will be in the account after that time?

4. A term account earns 3.6%, compounded daily for 3 years. If the amount is $8411.02 at the end of the 3 year period, what was the principal?

5. Kyle has $1500 to invest in a saving's account for 5 years. He has 3 options:

   Bank A – provides simple interest at 2%

   Bank B – provides compound interest at 2% compounded annually

   Bank C – provides compound interest at 2% compounded daily

   Which bank should he choose? Explain your reasoning.