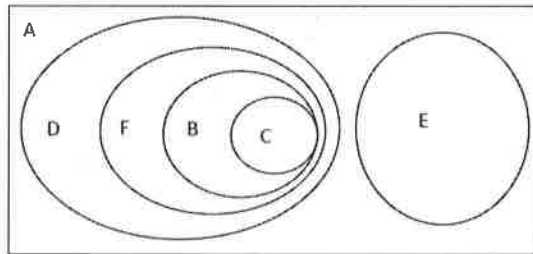


Name: KEY BLOCK _____

Math 10 100% Quiz

Fill in the following diagram illustrating the relationship among the subsets of the real number system. (Use descriptions on previous page)

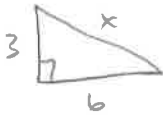
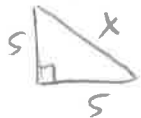
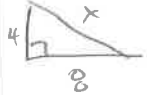





- A Real
- B Whole
- C Natural
- D Rational
- E Irrational
- F Integer

Column 1.	Column 2.	Column 3
<p>Complete this column if you make an error in column 1.</p> <p>To what set(s) of the real number system does -3 belong?</p> <p>Integer Rational Real</p>	<p>Complete this column if you make an error in column 2.</p> <p>To what set(s) of the real number system does $\frac{1}{2}$ belong?</p> <p>Rational Real</p>	<p>Complete this column if you make an error in column 3.</p> <p>To what set(s) of the real number system does 11 belong?</p> <p>Natural Rational Whole Real Integer</p>
<p>2. Find the GCF of 24, 120 and 72</p> <p> $\begin{array}{c} 24 \\ \wedge \quad \wedge \\ 6 \quad 4 \\ \wedge \quad \wedge \quad \wedge \\ 3 \quad 2 \quad 2 \quad 2 \\ 2^3 \times 3 = \boxed{24} \end{array}$ $\begin{array}{c} 120 \\ \wedge \quad \wedge \\ 12 \quad 10 \\ \wedge \quad \wedge \quad \wedge \\ 3 \quad 4 \quad 5 \quad 2 \\ 2 \quad 2 \end{array}$ $\begin{array}{c} 72 \\ \wedge \quad \wedge \\ 9 \quad 8 \\ \wedge \quad \wedge \quad \wedge \\ 3 \quad 3 \quad 4 \quad 2 \\ 2 \quad 2 \end{array}$ </p>	<p>Find the GCF of 16, 100 and 56</p> <p> $\begin{array}{c} 16 \\ \wedge \quad \wedge \\ 4 \quad 4 \\ \wedge \quad \wedge \\ 2 \quad 2 \quad 2 \quad 2 \end{array}$ $\begin{array}{c} 100 \\ \wedge \quad \wedge \\ 10 \quad 10 \\ \wedge \quad \wedge \quad \wedge \\ 2 \quad 5 \quad 2 \quad 5 \end{array}$ $\begin{array}{c} 56 \\ \wedge \quad \wedge \\ 7 \quad 8 \\ \wedge \quad \wedge \quad \wedge \\ 4 \quad 2 \quad 2 \\ 2 \quad 2 \end{array}$ <p>$2 \times 2 = \boxed{4}$</p> </p>	<p>Find the GCF of 24, 102 and 64</p> <p> $\begin{array}{c} 24 \\ \wedge \quad \wedge \\ 6 \quad 4 \\ \wedge \quad \wedge \quad \wedge \\ 3 \quad 2 \quad 2 \quad 2 \end{array}$ $\begin{array}{c} 102 \\ \wedge \quad \wedge \\ 2 \quad 51 \\ \wedge \quad \wedge \quad \wedge \\ 3 \quad 17 \end{array}$ $\begin{array}{c} 64 \\ \wedge \quad \wedge \\ 8 \quad 8 \\ \wedge \quad \wedge \quad \wedge \\ 4 \quad 2 \quad 4 \\ \wedge \quad \wedge \\ 2 \quad 2 \quad 2 \quad 2 \end{array}$ <p>$\boxed{2}$</p> </p>
<p>3. Find the LCM of 18, 20, 30</p> <p> $\begin{array}{r l} 2 & 18 \quad 20 \quad 30 \\ \hline 3 & 9 \quad 10 \quad 15 \\ \hline 5 & 3 \quad 10 \quad 5 \\ \hline & 3 \quad 2 \quad 1 \end{array}$ <p>$2^2 \cdot 3^2 \cdot 5 = \boxed{180}$</p> </p>	<p>Find the LCM of 18, 24, 30</p> <p> $\begin{array}{r l} 2 & 18 \quad 24 \quad 30 \\ \hline 3 & 9 \quad 12 \quad 15 \\ \hline 2 & 3 \quad 4 \quad 5 \\ \hline & 3 \quad 2 \quad 5 \end{array}$ <p>$2^3 \cdot 3^2 \cdot 5 = \boxed{540}$</p> </p>	<p>Find the LCM of 22, 28, 35</p> <p> $\begin{array}{r l} 2 & 22 \quad 28 \quad 35 \\ \hline 7 & 11 \quad 14 \quad 35 \\ \hline & 11 \quad 2 \quad 5 \end{array}$ <p>$2^2 \cdot 5 \cdot 7 \cdot 11 = \boxed{3080}$</p> </p>
<p>4. Simplify: $\sqrt{75}$</p> <p> $\begin{array}{c} \wedge \\ \sqrt{25} \sqrt{3} \\ \boxed{5\sqrt{3}} \end{array}$ </p>	<p>Simplify: $\sqrt{98}$</p> <p> $\begin{array}{c} \wedge \\ \sqrt{49} \sqrt{2} \\ 7\sqrt{2} \end{array}$ </p>	<p>Simplify: $\sqrt{32}$</p> <p> $\begin{array}{c} \wedge \\ \sqrt{16} \sqrt{2} \\ 4\sqrt{2} \end{array}$ </p>

Name: _____ BLOCK _____

<p>5. Simplify: $\sqrt{25x^6}$</p> $5x^3$	<p>Simplify: $\sqrt{36b^4}$</p> $6b^2$	<p>Simplify: $\sqrt{49x^6y^2}$</p> $7x^3y$
<p>6. Simplify: $\sqrt[3]{54}$</p> $\sqrt[3]{27} \sqrt[3]{2}$ $3\sqrt[3]{2}$	<p>Simplify: $\sqrt[3]{56}$</p> $\sqrt[3]{8} \sqrt[3]{7}$ $2\sqrt[3]{7}$	<p>Simplify: $\sqrt[3]{24}$</p> $\sqrt[3]{8} \sqrt[3]{3}$ $2\sqrt[3]{3}$
<p>7. Evaluate: $\sqrt{\frac{16}{25}}$</p> $\frac{4}{5}$	<p>Evaluate: $\sqrt{\frac{36}{49}}$</p> $\frac{6}{7}$	<p>Evaluate: $\sqrt{\frac{100}{121}}$</p> $\frac{10}{11}$
<p>8. Simplify: $2\sqrt{10} \times 3\sqrt{6}$</p> $6\sqrt{60}$ $6\sqrt{4} \sqrt{15}$ $6 \cdot 2\sqrt{15}$ $12\sqrt{15}$	<p>Simplify: $2\sqrt{5} \times 7\sqrt{10}$</p> $14\sqrt{50}$ $14\sqrt{25} \sqrt{2}$ $14 \cdot 5\sqrt{2}$ $70\sqrt{2}$	<p>Simplify: $2\sqrt{2} \times 5\sqrt{10}$</p> $10\sqrt{20}$ $10\sqrt{4} \sqrt{5}$ $10 \cdot 2\sqrt{5}$ $20\sqrt{5}$
<p>9. Simplify: $-2\sqrt{2} \times -3\sqrt{14}$</p> $6\sqrt{28}$ $6\sqrt{4} \sqrt{7}$ $6 \cdot 2\sqrt{7}$ $12\sqrt{7}$	<p>Simplify: $-5\sqrt{6} \times 3\sqrt{8}$</p> $-15\sqrt{48}$ $-15\sqrt{16} \sqrt{3}$ $-15 \cdot 4\sqrt{3}$ $-60\sqrt{3}$	<p>Simplify: $-7\sqrt{3} \times -2\sqrt{15}$</p> $14\sqrt{45}$ $14\sqrt{9} \sqrt{5}$ $14 \cdot 3\sqrt{5}$ $42\sqrt{5}$

<p>10. Find the missing side in simplest radical form of a right angled triangle with legs 3 and 6.</p>  $3^2 + 6^2 = x^2$ $9 + 36 = x^2$ $45 = x^2$ $\sqrt{45} = x$ $\sqrt{9 \cdot 5} = x$ $\boxed{3\sqrt{5}} = x$	<p>Find the missing side in simplest radical form of a right angled triangle with legs 5 and 5.</p>  $5^2 + 5^2 = x^2$ $25 + 25 = x^2$ $50 = x^2$ $\sqrt{50} = x$ $\sqrt{25 \cdot 2} = x$ $\boxed{5\sqrt{2}}$	<p>Find the missing side in simplest radical form of a right angled triangle with legs 4 and 8.</p>  $4^2 + 8^2 = x^2$ $16 + 64 = x^2$ $80 = x^2$ $\sqrt{80} = x$ $\sqrt{16 \cdot 5} = x$ $\boxed{4\sqrt{5}} = x$
<p>11. Find the area of the shaded region shown is lowest mixed radical form:</p>  $2\sqrt{3} \times 3\sqrt{6}$ $6\sqrt{18}$ $6\sqrt{9 \cdot 2}$ $6 \cdot 3\sqrt{2}$ $18\sqrt{2}$	<p>Find the area of the shaded region shown is lowest mixed radical form:</p>  $5\sqrt{5} \cdot 7\sqrt{10}$ $35\sqrt{50}$ $35\sqrt{25 \cdot 2}$ $35 \cdot 5\sqrt{2}$ $175\sqrt{2}$	<p>Find the area of the shaded region shown is lowest mixed radical form:</p>  $2\sqrt{7} \times 5\sqrt{14}$ $10\sqrt{98}$ $10\sqrt{49 \cdot 2}$ $70\sqrt{2}$
<p>12. Simplify in lowest mixed radical form:</p> $\sqrt[3]{48}$ $\sqrt[3]{8 \cdot 6}$ $2\sqrt[3]{6}$	<p>Simplify in lowest mixed radical form:</p> $\sqrt[3]{54}$ $\sqrt[3]{27 \cdot 2}$ $3\sqrt[3]{2}$	<p>Simplify in lowest mixed radical form:</p> $\sqrt[3]{-250}$ $\sqrt[3]{-125 \cdot 2}$ $-5\sqrt[3]{2}$

