

Directions: Show work for every problem and circle your answer. Remember to use your classmates and your teacher to confirm your answers---this should be a perfect score!!

1. What is not a type of real numbers?

A. Whole

B. Integer

C. Imaginary

D. Rational

2. What is equivalent to the following rational power? $a^{3/2}$

A. $(\sqrt[3]{a})^2$ B. $(\sqrt[2]{a})^3$ C. $a^{0.5}$ D. $\sqrt[2]{a}$

3. Simplify: $\left(\frac{-4a^3b^{-5}}{b^7}\right)^3$

A. $\frac{64a^9}{b^{36}}$ B. $-64a^9b^6$ C. $\frac{-64a^6}{b^{18}}$ D. $\frac{-64a^9}{b^{36}}$

4. Use the following table of information (use $x = 0$ for year 1974):

What is the linear regression equation?

United States Minimum Wage

Year x	Hourly minimum y	Year x	Hourly minimum y
1974	\$1.90	1980	\$3.10
1975	\$2.00	1981	\$3.35
1976	\$2.20	1990	\$3.80
1977	\$2.30	1991	\$4.25
1978	\$2.65	1996	\$4.75
1979	\$2.90	1997	\$5.15

(Bureau of Labor Statistics, www.bls.gov)

A. $y = 0.128x - 251.123$ B. $y = 0.296x + 1.568$ C. $y = 0.128x + 2.063$ D. $y = -0.014x + 30.392$

5. Create an equation that is perpendicular to the given line and goes through the given point:

$$y = 4x + 2 \quad (16, -8)$$

A. $y = -\frac{1}{4}x - 4$ B. $y = -\frac{1}{4}x - 12$ C. $y = -\frac{1}{4}x - 14$ D. *none of these*

6. Solve the following inequality: $-5x + 2 \leq 12$

A. $x \leq -2$

B. $x \geq -2$

C. $x \geq 2$

D. $x \leq 2$

7. Solve the following absolute value equation: $\frac{|x|}{2} = 4$

A. $x = 4$ or -4

B. $x = 8$ or -8

C. $x = 6$ or -6

D. $x = -8$

8. Solve the following absolute value inequality: $|2x - 10| \geq 6$

9. Graph your answer from #8 on a number line:

10. Create a concept map for Properties of Addition and Multiplication: