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Algebra Sem II Pre-Test Review

Directions: Try all of the problems and do as much as you can. It is okay if you do not remember how to do everything!

1. List all the factors of the following numbers.
 - a. 35

 - b. 42

2. Find the greatest common factor of the pair of numbers.
 - a. 17, 24

 - b. 39, 65

3. Find the least common multiple of the pair of fractions.
 - a. 5, 7

 - b. 20, 25

4. Find the reciprocal of the following numbers.
 - a. 100

 - b. $\frac{6}{7}$

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5. Add or subtract. Write the answer as a fraction in simplest form.

a. $\frac{1}{6} + \frac{4}{6}$

b. $\frac{3}{5} - \frac{1}{10}$

6. Multiply or divide. Write the answer as a fraction in simplest form.

a. $\frac{5}{8} \times \frac{4}{15}$

b. $\frac{5}{12} \div \frac{1}{2}$

7. Evaluate the expression $2x + y^2$ when $x = 7$ and $y = 4$.

8. Evaluate $\frac{1}{3}(48 + 3) - 2^3$

9. Find the sum of $-5 + 8 + (-2)$

10. Find the product of $(-\frac{1}{2})(-6)(-\frac{1}{3})$

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11. Simplify $(-3)(-x)(4)$

12. Simplify the expression $\frac{24x-8}{4}$

13. Simplify the expression $-2(2x + 5) + 9x$

14. Evaluate the expression $126 \div (2y^3)$ when $y = 3$

15. You are saving money to go to summer camp. You need at least \$500 to cover all your costs. You can save \$20 every week.

a. Write an equation to model the situation using w for the number of weeks.

b. How long will it take you to save enough money?

c. If you only save \$15 a week, how long will it take you to save enough money?

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16. Your sister lends you \$75 to buy a video game. You agree to work off your loan by doing her chores for \$3 an hour.

a. Write an equation that you can use to determine the amount of money, m , you still owe your sister after working h hours.

b. How much do you owe after 12 hours of chores?

c. How many hours of chores must you complete to pay for the \$75 loan?

17. Write the ration 128 to 24 in simplest form.

18. Solve the following equations. Be sure to show ALL work.

a. $x + 4 = -9$

b. $\frac{-2}{7}x = 6$

c. $3x - 6 = 4x + 8$

d. $\frac{1}{2}(6y - 8) = 2 + y$

e. $4x - 3(x + 2) = 5(4 + x)$

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19. Plot and label the following ordered points in the coordinate plane.

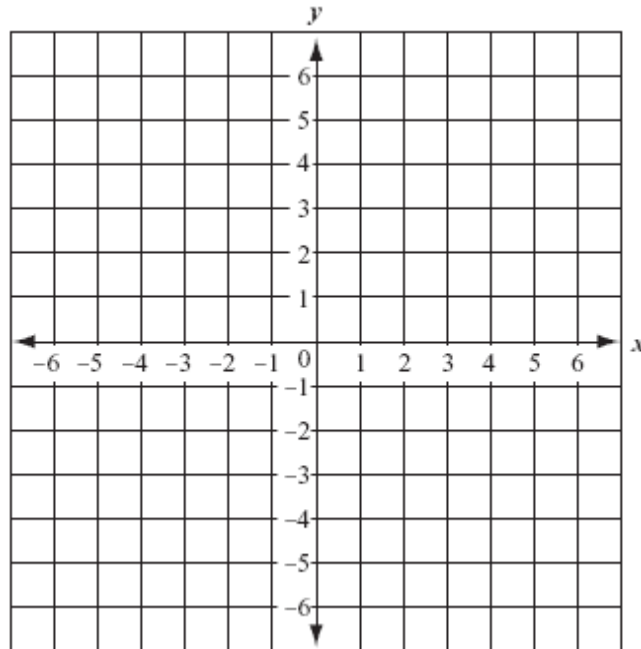
Point A: $(-2, 3)$

Point B: $(5, 6)$

Point C: $(-4, -1)$

Point D: $(4, -2)$

Point E: $(0, 3)$



20. Find two ordered pairs that are solutions for the equation $y = 3x - 5$

21. Solve the equation $3x + 2y = 10$ for y .

22. Find the slope of the line passing through the given points.

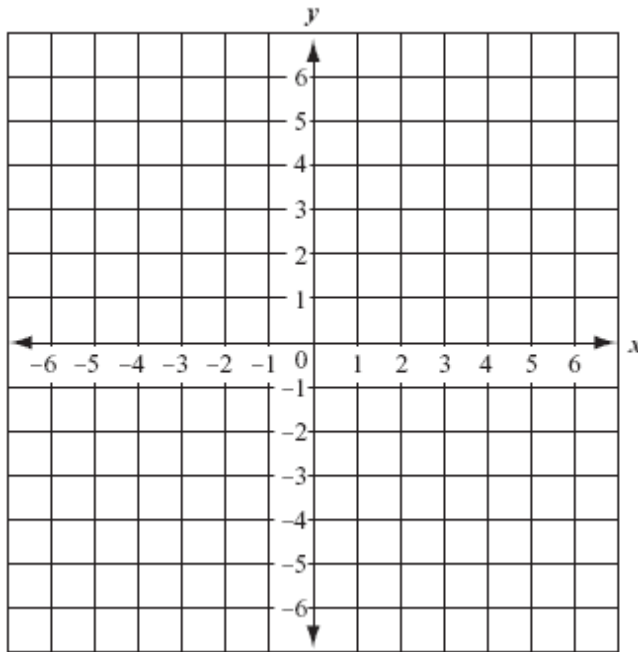
a. $(1, 5), (2, 9)$

b. $(-2, 3), (4, -1)$

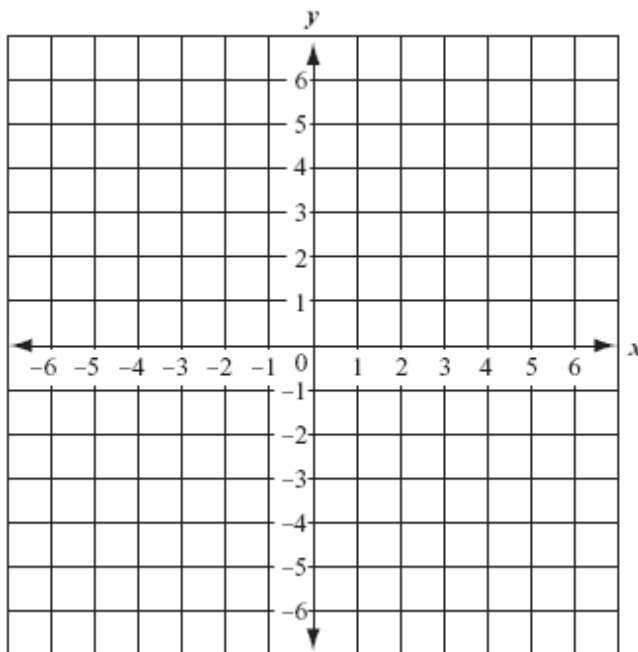
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23. Graph the following equations.

a. $y = x + 1$



b. $2x + y = 5$



24. What does the word *slope* mean?

25. What does the word *y-intercept* mean?