

Midterm Review Ch. 1-6

Evaluate the expression for the given value of the variable.

1. $6y + 7$ when $y = 3$

2. $4t + 6u$ when $t = 4$ and $u = 4$

3. Evaluate the variable expressions when

$a = 3$.

A. $3a^2$

B. $(3a)^2$

Evaluate the expression for the given values of the variables.

4. $(6k + m)^2$ when $k = 1$ and $m = 3$

5. $(c)^3 + (2g)^2$ when $c = 2$ and $g = 3$

Evaluate the expression.

6. $180 \div (3 \cdot 4 \div 2)$

7. $3 \cdot 4^2 - 2$

Evaluate the expression for the given value of the variable.

8. $4y^2 \div 4 + 3$ when $y = 3$

9. $[(y - 2)^2 + 5] \div 3$ when $y = 4$

10. Evaluate the expression for the given values of the variables.

$\frac{45 - 1}{x + 2y^2} \cdot 2$ when $x = 6$ and $y = 2$

11. Find the difference.

$(-4) - (-5)$

Find the product.

12. $8(-6)$

13. $(-2)^4$

14. Evaluate the expression for the given value of the variable.

$(5 - x)\left(\frac{3}{4}\right)$ when $x = -2$

15. Simplify the expression.

$7x + 2(x + 5)$

16. Evaluate the expression for the given value(s) of the variable(s).

$\frac{x}{y}$ when $x = -10$ and $y = 2$

Solve the equation.

17. $13 = m - 3$

18. $40 = 8y$

19. $\frac{5}{7}x = 35$

Solve the equation.

20. $\frac{x}{5} = 3$

21. $4x + 8 = 21$

22. $9n + 20 - 11n = 38$

23. $5n - 2(n - 2) = -11$

24. $6z + 3 = 8z - 5$

25. $3(2x - 1) - 11 = -2(1 - x)$

Give answers to one decimal place where needed.

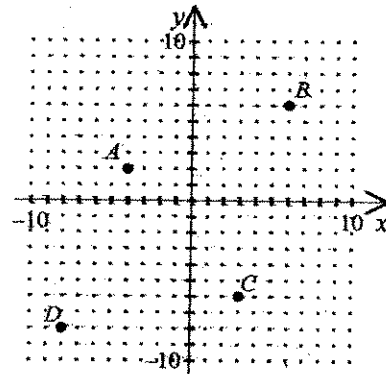
26. What is 18% of 180 miles?

27. 90 is 36% of what number?

28. 50 people is what percent of 210 people?

29. 90% of 30 is what number?

30. Write the ordered pairs that correspond to the given points.



Graph the linear equation by finding the x - and y -intercepts.

31. $4x + 3y = 12$

32. $3x + y = 3$

33. Find the slope of the line passing through the points $A(5, -2)$ and $B(2, 4)$.

34. Find the slope of the line that contains $(10, 2)$ and $(2, 2)$.

35. Find the slope and y -intercept of the line.
 $9x + 3y = -54$

36. Find the slope and y -intercept of the line $y = -6x + 13$. Is the line parallel to $y = -6x + 12$?

37. Find the slope and y -intercept of the line $y = 4x - 13$. Is the line parallel to $y = 4x - 14$?

38. Determine whether the lines are perpendicular.

$$y = 4x + 3, y = -4x - \frac{1}{3}$$

39. Find the slope of a line perpendicular to the line $y = -4x + 3$.

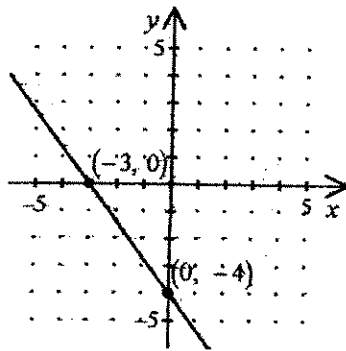
40. Write an equation of the line with slope $-\frac{3}{2}$ and y -intercept -5 .

41. Use the point-slope form to write an equation of the line that passes through the given point and has the given slope.

$$(-7, 1), m = \frac{1}{2}$$

42. Write an equation for the line containing $(1, -1)$ and $(5, -21)$.

43. Write an equation of the line shown on the graph.



44. Write the slope-intercept form of the equation of the line passing through the point $(4, -5)$ and perpendicular to the

$$\text{line } y = \frac{2}{5}x - 3.$$

45. Solve and graph the inequality $4x - 1 \leq 2(x + 3)$

Solve the inequality.

46. $9 + \frac{1}{2}x \leq 11$

47. $-8 \leq -2x - 8 \leq 4$

48. $2x - 2 > -8$ or $3x - 4 < -1$