

Summer Practice Work

Date _____

Evaluate each expression.

1) $\left((-3) - \frac{4}{-1}\right)(4)$

2) $3 + \frac{1}{-1} - (-3)$

3) $(-3)(-3)^2 - 6$

Evaluate each using the values given.

4) $1 + z + 5y$; use $y = -4$, and $z = 1$

5) $\frac{x}{5} + |z|$; use $x = 5$, and $z = 4$

6) $a - 2 + ca$; use $a = 6$, and $c = 4$

Simplify each expression.

7) $8(n - 1) - 5n$

8) $-9 + (-2 + 10x) \cdot -1$

Solve each equation.

9) $6(-2n - 5) = -7n + 5$

10) $-5(a + 8) = -47 - 5a$

11) $\frac{|n - 1|}{3} = 1$

12) $\frac{|5x|}{9} = 4$

Solve each inequality.

13) $3(-3n + 5) < 21 - 6n$

14) $-4(x + 1) < 12 - 6x$

Solve each compound inequality.

15) $-1 < \frac{p}{8} \leq 1$

16) $6 \leq m + 7 \leq 16$

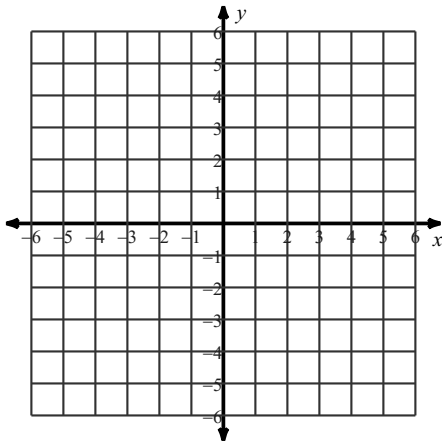
Solve each inequality.

17) $|p + 7| - 2 \geq 15$

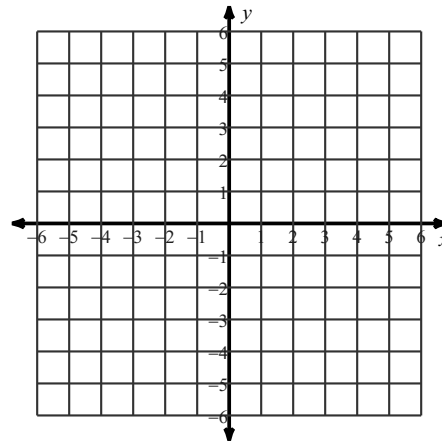
18) $\frac{|v + 1|}{5} \leq 4$

Sketch the graph of each line.

19) $8x + 3y = -12$



20) $2x + 3y = -9$



Write the slope-intercept form of the equation of the line through the given point with the given slope.

21) through: $(-4, 1)$, slope = -1

Write the slope-intercept form of the equation of the line through the given points.

22) through: $(-4, -1)$ and $(0, -4)$

Write the slope-intercept form of the equation of the line described.

23) through: $(-5, 1)$, parallel to $y = \frac{1}{5}x - 3$

24) through: $(-5, 3)$, perp. to $y = 5x + 4$

Factor each completely.

25) $p^2 + 10p$

26) $n^2 + 9n$

27) $3x^2 - 25x + 50$

28) $2x^2 + 13x - 24$

29) $9a^2 + 30a + 25$

30) $x^2 + 4x + 4$

Solve each equation by taking square roots. Round to three decimal places.

31) $n^2 = -57$

32) $a^2 = -77$

33) $x^2 + 7 = 9$

34) $n^2 - 1 = 97$

Solve each equation by factoring.

35) $x^2 - 9x = -8$

36) $n^2 = -14 - 9n$

Simplify each expression.

37) $(x - 7x^2 + x^4) - (7x^3 + 7x - 8x^2)$

38) $(3v^4 + 4v^3 - 8v^2) - (6v + 2v^2 + 5v^4)$

Find each product.

39) $(5n + 8)(8n + 4)$

40) $(8b + 6)(6b - 8)$

41) $(2 - 8v)(2 + 8v)$

42) $(3 + 6x)(3 - 6x)$

Divide.

43) $(3r^3 - 18r^2 - 55r + 64) \div (r - 8)$

44) $(x^3 + 2x^2 + 7x + 7) \div (x + 1)$

Evaluate each function.

45) $g(x) = -3x^2 - x$; Find $g(1)$

46) $g(x) = x^2 - 3$; Find $g(6)$

Simplify.

47) $\sqrt{54x^4}$

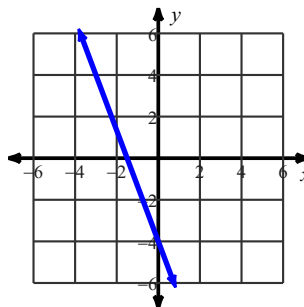
48) $\sqrt{245x^3}$

49) $-\sqrt{2} + 3\sqrt{8}$

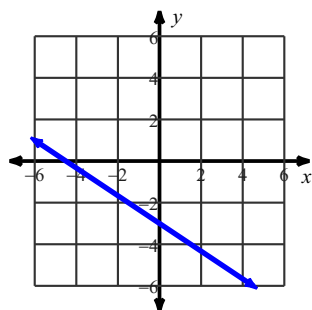
50) $2\sqrt{54} - 2\sqrt{6}$

Answers to Summer Practice Work

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|---------------------------------|--------------------------|---------------------|--|
| 1) 4 | 2) 5 | 3) -33 | 4) -18 |
| 5) 5 | 6) 28 | 7) $3n - 8$ | 8) $-7 - 10x$ |
| 9) $\{-7\}$ | 10) No solution. | 11) $\{4, -2\}$ | 12) $\left\{\frac{36}{5}, -\frac{36}{5}\right\}$ |
| 13) $n > -2$ | 14) $x < 8$ | 15) $-8 < p \leq 8$ | 16) $-1 \leq m \leq 9$ |
| 17) $p \geq 10$ or $p \leq -24$ | 18) $-21 \leq v \leq 19$ | 19) | |



20)



21) $y = -x - 3$

22) $y = -\frac{3}{4}x - 4$

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|-----------------------------------|-----------------------------------|---------------------------------|-------------------------------|
| 23) $y = \frac{1}{5}x + 2$ | 24) $y = -\frac{1}{5}x + 2$ | 25) $p(p + 10)$ | 26) $n(n + 9)$ |
| 27) $(3x - 10)(x - 5)$ | 28) $(2x - 3)(x + 8)$ | 29) $(3a + 5)^2$ | 30) $(x + 2)^2$ |
| 31) $\{i\sqrt{57}, -i\sqrt{57}\}$ | 32) $\{i\sqrt{77}, -i\sqrt{77}\}$ | 33) $\{1.414, -1.414\}$ | 34) $\{9.899, -9.899\}$ |
| 35) $\{1, 8\}$ | 36) $\{-2, -7\}$ | 37) $x^4 - 7x^3 + x^2 - 6x$ | |
| 38) $-2v^4 + 4v^3 - 10v^2 - 6v$ | 39) $40n^2 + 84n + 32$ | 40) $48b^2 - 28b - 48$ | |
| 41) $4 - 64v^2$ | 42) $9 - 36x^2$ | 43) $3r^2 + 6r - 7, \mathbb{R}$ | 44) $x^2 + x + 6, \mathbb{R}$ |
| 45) -4 | 46) 33 | 47) $3x^2\sqrt{6}$ | 48) $7x\sqrt{5x}$ |
| 49) $5\sqrt{2}$ | 50) $4\sqrt{6}$ | | |