Algebra 1 Name_____

Week 6

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Solve each proportion.

1) $\frac{7}{p} = \frac{5}{p+5}$

Simplify. Your answer should contain only positive exponents.

2) $-2yx^4 \cdot x^3 \cdot -xy$

3) $\left(-2ab^{-2}\right)^3$

4) $\frac{-x^3}{-3x^{-3}y^3}$

Simplify. Use absolute value signs when necessary.

5) $\sqrt{24r}$

Simplify.

6) $-3\sqrt{3} - 2\sqrt{12}$

7) $\sqrt{3} \cdot \sqrt{3}$

8) $\sqrt{6}\left(\sqrt{6} + 4\right)$

9) $\frac{\sqrt{6}}{3\sqrt{32}}$

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10) $-\dfrac{1}{5-\sqrt{5}}$

Solve each equation.

11) $\left|-5n\right| - 5 = 0$

Solve each equation by factoring.

12) $a^2 + 3a - 28 = 0$

Solve each system by elimination.

13) $-6x + 7y = 0$
$-3x + y = -15$

Write the standard form of the equation of each line given the slope and y-intercept.

14) Slope = –3, y-intercept = 5

Factor each completely.

15) $x^2 + 2x - 24$

16) $3n^2 - 13n + 4$

Solve each equation by completing the square.

17) $8r^2 - 16r - 61 = 0$

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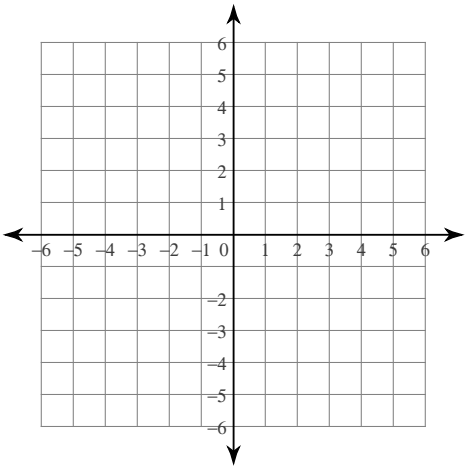
Sketch the graph of each line.

18) $4x + 3y = 3$

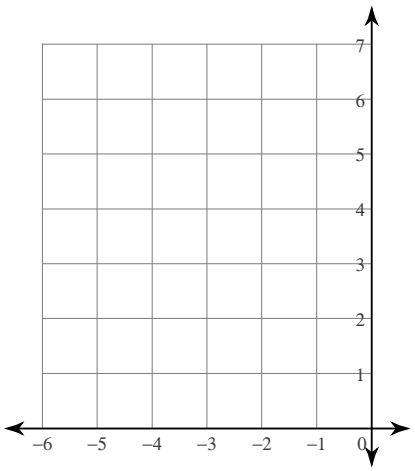


Solve each equation with the quadratic formula.

19) $7n^2 - 12n - 5 = 0$

Sketch the graph of each function.

20) $y = x^2 + 6x + 11$



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Answers to Week 6 (ID: 1)

1) $\{-17.5\}$

2) $2y^2x^8$

3) $-\dfrac{8a^3}{b^6}$

4) $\dfrac{x^6}{3y^3}$

5) $2\sqrt{6r}$

6) $-7\sqrt{3}$

7) 3

8) $6+4\sqrt{6}$

9) $\dfrac{\sqrt{3}}{12}$

10) $\dfrac{-5-\sqrt{5}}{20}$

11) $\{-1, 1\}$

12) $\{4, -7\}$

13) $(7, 6)$

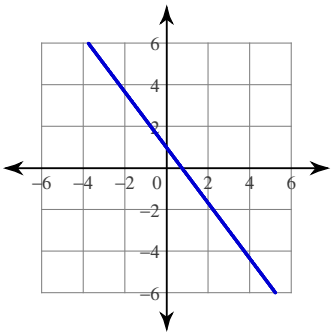
14) $3x + y = 5$

15) $(x-4)(x+6)$

16) $(3n-1)(n-4)$

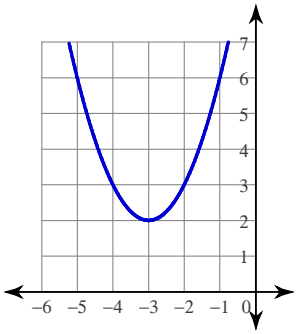
17) $\left\{\dfrac{4+\sqrt{138}}{4}, \dfrac{4-\sqrt{138}}{4}\right\}$

18)



19) $\left\{\dfrac{6+\sqrt{71}}{7}, \dfrac{6-\sqrt{71}}{7}\right\}$

20)



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