

Assignment

Date _____ Period _____

Simplify. Your answer should contain only positive exponents.

1) $2n \cdot n$

2) $2x^2 \cdot x^3$

3) $(2mn \cdot -m^4)^2$

4) $2a^4b^5 \cdot (a^{-3}b^0)^0$

5) $\frac{2u}{(-2u^{-3}v^{-3})^4 \cdot u^{-1}v^2}$

6) $\frac{(-x^{-3}y^{-1})^4}{-x^3y^2 \cdot xy^0}$

7) $\frac{(-2a)^{-4}}{a^3 \cdot (-a^{-4}b^4)^{-2}}$

8) $\left(\frac{y^{-2}}{-y^3 \cdot -x^{-3}y^2}\right)^{-4}$

Determine the domain and range of the function. For determination of whether something is a function, go to IXL: Algebra 1, Q.4.

9) $-\frac{x+6}{2x^2} = y$

10) $\frac{1}{x} = y$

11) $y = \frac{1}{x-2}$

12) $y = \sqrt{20-x}$

Solve each equation by factoring.

13) $b(b+5) = 0$

14) $(k+5)(k-5) = 0$

15) $v^2 = 2v + 48$

16) $3p^2 = -15p + 72$

17) $277 - 248k = -48k^2 - 3$

18) $-2b^2 = 44b - 7b^2 - 32$

Solve each equation by taking square roots. Give exact values (simplified radicals).

19) $49k^2 = 49$

20) $x^2 - 3 = 46$

21) $5x^2 + 1 = 51$

22) $7p^2 - 4 = 444$

23) $8 + 225n^2 = 233$

24) $18x^2 - 10 = 4652$

Solve each equation by completing the square.

25) $n^2 + 10n - 26 = -2$

26) $n^2 - 2n - 7 = -2$

27) $v^2 + 10v - 48 = 8$

28) $p^2 - 6p - 21 = -5$

Solve each equation with the quadratic formula.

29) $2x^2 + 5x + 3 = 0$

30) $x^2 - 5x + 4 = 0$

31) $3x^2 = 10x - 1$

32) $m^2 = 36$

Find the value of the discriminant of each quadratic equation.

33) $-5v^2 + 3v - 4 = 0$

34) $-3r^2 - 6r + 4 = 0$

Find the discriminant of each quadratic equation then state the number of real solutions.

35) $3r^2 - 6r + 9 = 6$

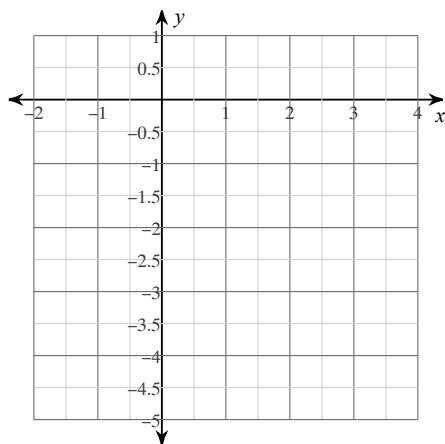
36) $-8p^2 + 3p + 13 = 8$

37) $x^2 + 14x + 4 = 10x$

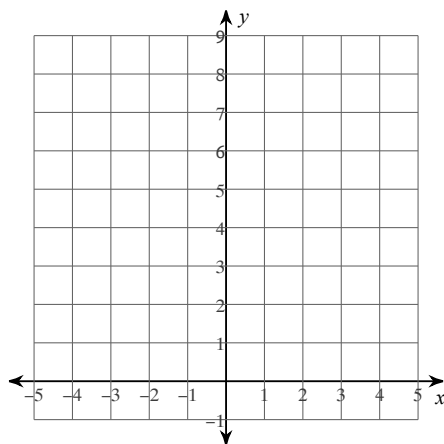
38) $x^2 + 2x + 9 = -11x$

Sketch the graph of each function.

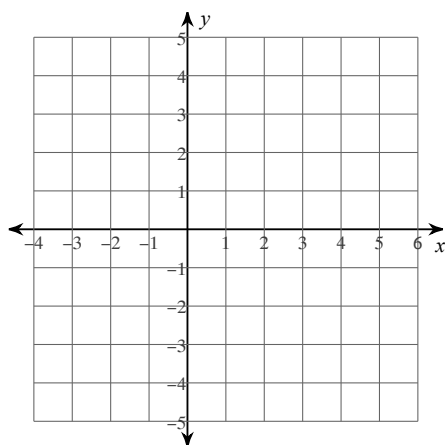
39) $y = -x^2$



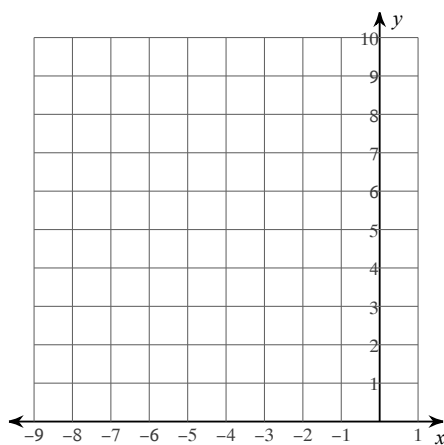
40) $y = 2x^2$



41) $f(x) = 2x^2 - 4x - 2$



42) $f(x) = 2x^2 + 12x + 19$



Answers to Assignment (ID: 1)

1) $2n^2$
5) $\frac{u^{14}v^{10}}{8}$

2) $2x^5$
6) $-\frac{1}{x^{16}y^6}$

3) $4m^{10}n^2$
7) $\frac{b^8}{16a^{15}}$

4) $2a^4b^5$
8) $\frac{y^{28}}{x^{12}}$

9) D: $\{x:x \neq 0\}$; R: $\{y:y \in \mathbb{R}\}$

10) D: $\{x \neq 0\}$; R: $\{y \neq 0\}$

11) D: $\{x: x \neq 2\}$; R: $\{x: y \neq 0\}$

12) D: $\{x:x \leq 20\}$; R: $\{y:y \geq 0\}$

13) $\{-5, 0\}$

14) $\{-5, 5\}$

15) $\{8, -6\}$

16) $\{-8, 3\}$

17) $\left\{\frac{5}{3}, \frac{7}{2}\right\}$

18) $\left\{\frac{4}{5}, 8\right\}$

19) $\{1, -1\}$

20) $\{7, -7\}$

21) $\{\sqrt{10}, -\sqrt{10}\}$

22) $\{8, -8\}$

23) $\{1, -1\}$

24) $\{\sqrt{259}, -\sqrt{259}\}$

25) $\{2, -12\}$

26) $\{1 + \sqrt{6}, 1 - \sqrt{6}\}$

27) $\{4, -14\}$

28) $\{8, -2\}$

29) $\{-1, -1.5\}$

30) $\{4, 1\}$

31) $\{3.23, 0.103\}$

32) $\{6, -6\}$

33) -71

34) 84

35) 0; one real solution

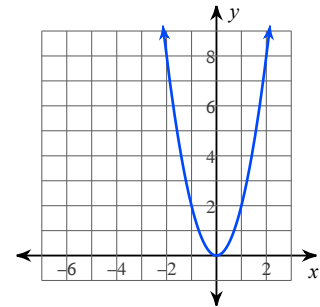
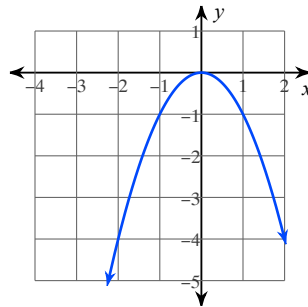
36) 169; two real solutions

37) 0; one real solution

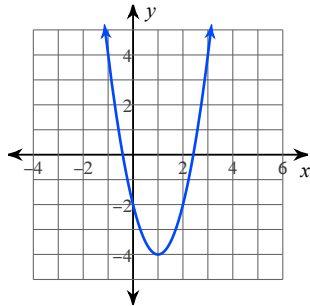
38) 133; two real solutions

39)

40)



41)



42)

