

Unit 6 Final Practice

Sketch the graph of each function.

1) $y = 2(x + 2)^2 - 1$

2) $y = (x + 4)^2 - 1$

3) $y = -x^2 + 6x - 8$

4) $y = x^2 + 6x + 5$

Factor each completely.

5) $4x^2 + 32x$

6) $v^2 - 11v + 18$

7) $3n^2 - 26n - 40$

8) $6x^2 - 9x - 15$

9) $16r^2 - 56r$

10) $16b^2 - 148b - 120$

Solve each equation by taking square roots.

11) $r^2 + 5 = 101$

12) $x^2 - 3 = 1$

13) $2r^2 - 4 = -30$

14) $7r^2 + 1 = -120$

Solve each equation by factoring.

15) $5p^2 + 20p + 15 = 0$

16) $6p^2 - 18p - 236 = 4$

17) $x^2 + 4x = 5$

18) $6r^2 + 7r - 2 = 3$

Solve each equation with the quadratic formula.

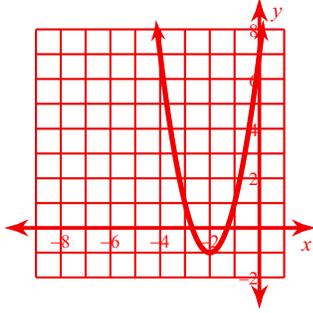
19) $4b^2 + 5b + 7 = 0$

20) $-7x^2 + 3x + 11 = 4$

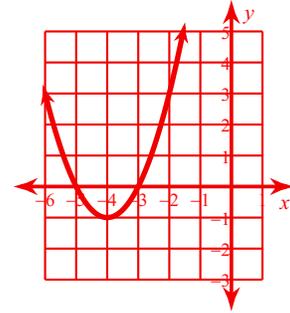
Unit 6 Final Practice

Sketch the graph of each function.

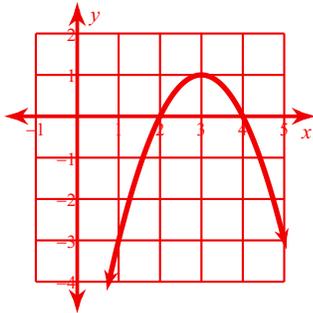
1) $y = 2(x + 2)^2 - 1$



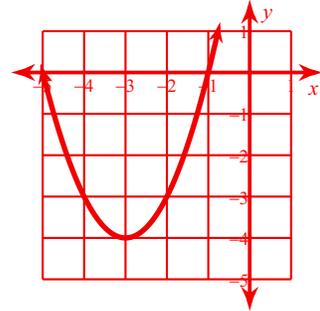
2) $y = (x + 4)^2 - 1$



3) $y = -x^2 + 6x - 8$



4) $y = x^2 + 6x + 5$



Factor each completely.

5) $4x^2 + 32x$

$4x(x + 8)$

6) $v^2 - 11v + 18$

$(v - 2)(v - 9)$

7) $3n^2 - 26n - 40$

$(3n + 4)(n - 10)$

8) $6x^2 - 9x - 15$

$3(2x - 5)(x + 1)$

9) $16r^2 - 56r$

$8r(2r - 7)$

10) $16b^2 - 148b - 120$

$4(b - 10)(4b + 3)$

Solve each equation by taking square roots.

11) $r^2 + 5 = 101$

$\{4\sqrt{6}, -4\sqrt{6}\}$

12) $x^2 - 3 = 1$

$\{2, -2\}$

13) $2r^2 - 4 = -30$

$\{i\sqrt{13}, -i\sqrt{13}\}$

14) $7r^2 + 1 = -120$

$\left\{\frac{11i\sqrt{7}}{7}, -\frac{11i\sqrt{7}}{7}\right\}$

Solve each equation by factoring.

15) $5p^2 + 20p + 15 = 0$

$\{-1, -3\}$

16) $6p^2 - 18p - 236 = 4$

$\{8, -5\}$

17) $x^2 + 4x = 5$

$\{-5, 1\}$

18) $6r^2 + 7r - 2 = 3$

$\left\{\frac{1}{2}, -\frac{5}{3}\right\}$

Solve each equation with the quadratic formula.

19) $4b^2 + 5b + 7 = 0$

$\left\{\frac{-5 + i\sqrt{87}}{8}, \frac{-5 - i\sqrt{87}}{8}\right\}$

20) $-7x^2 + 3x + 11 = 4$

$\left\{\frac{3 - \sqrt{205}}{14}, \frac{3 + \sqrt{205}}{14}\right\}$