

Quadratic Formula and Transformations of Quadratic Functions

 **Solve the quadratic equations using quadratic formula.**

1) $x^2 + 2x - 8 = 0$

2) $x^2 - 5x - 6 = 0$

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

4) $2x^2 - x - 13 = 2$

5) $2x^2 - x - 4 = 2$

6) $x^2 - 4x - 14 = -2$

7) $8x^2 - 4x = 18$

8) $8x^2 + 6x = -5$

9) $10x^2 + 9 = x$

10) $x^2 = 9x - 20$

11) $9x^2 - 11 = 6x$

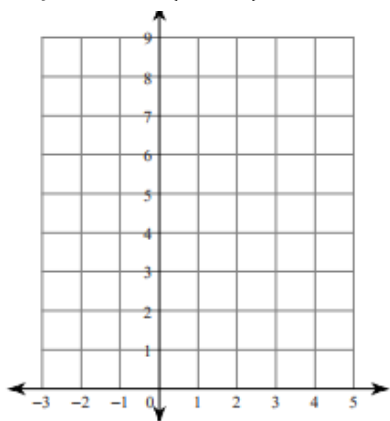
12) $4x^2 - 8 = a$

13) $14x^2 + 1 = 6x^2 + 7x$

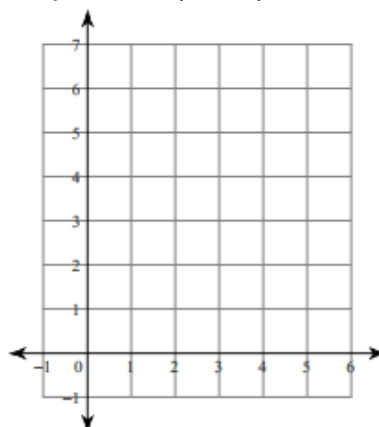
14) $4x^2 + 4x - 8 = 1$

 **State the transformations and sketch the graph of each function.**

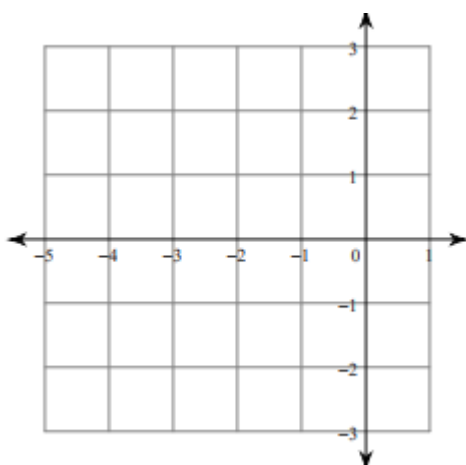
15) $y - 2 = (x - 4)^2$



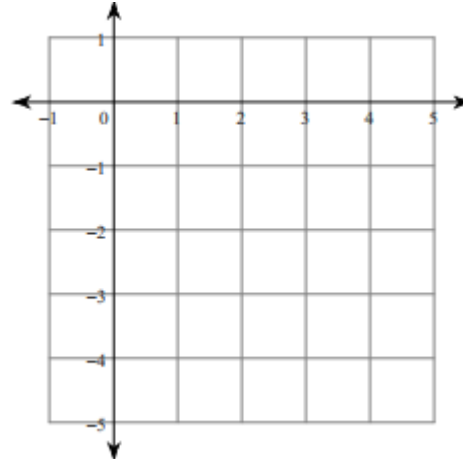
16) $y - 5 = (x - 2)^2$



17) $y + 7 = (x + 3)^2$



18) $y + 9 = (x - 1)^2$



Answers

Quadratic formula and Transformations of quadratic functions

1) $\{2, -4\}$

2) $\{1, -6\}$

3) $\{\frac{3}{2}, 1\}$

4) $\{3, -\frac{5}{2}\}$

5) $\{2, -\frac{3}{2}\}$

6) $\{6, -2\}$

7) $\{\frac{1+\sqrt{37}}{4}, \frac{1-\sqrt{37}}{4}\}$

8) $\{\frac{-3+i\sqrt{31}}{8}, \frac{-3-i\sqrt{31}}{8}\}$

9) $\{\frac{1+i\sqrt{359}}{20}, \frac{1-i\sqrt{359}}{20}\}$

10) $\{5, 4\}$

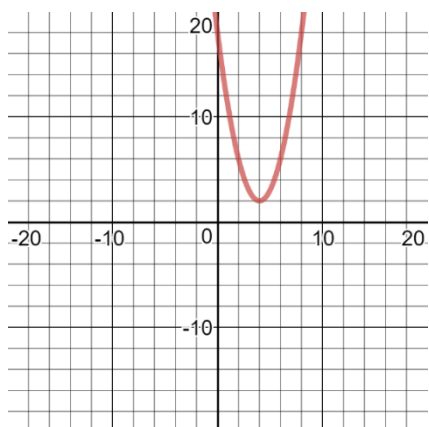
11) $\{\frac{1+2\sqrt{3}}{3}, \frac{1-2\sqrt{3}}{3}\}$

12) $\{\frac{1+\sqrt{129}}{8}, \frac{1-\sqrt{129}}{8}\}$

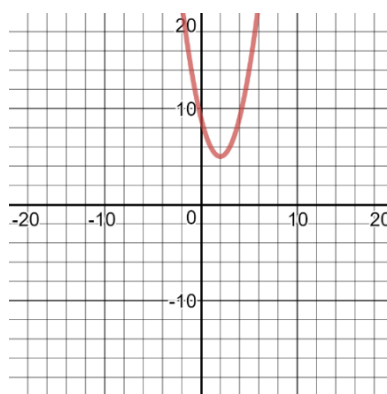
13) $\{\frac{7+\sqrt{17}}{16}, \frac{7-\sqrt{17}}{16}\}$

14) $\{\frac{-1+\sqrt{10}}{2}, \frac{-1-\sqrt{10}}{2}\}$

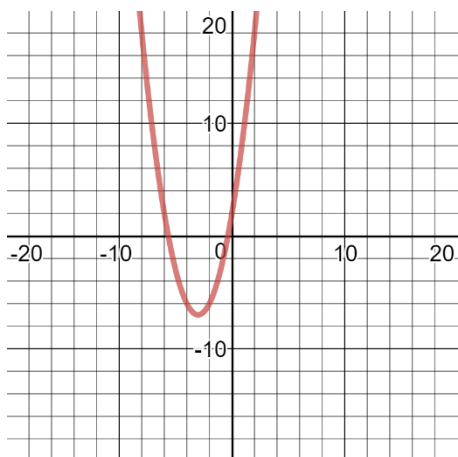
15)



16)



17)



18)

