

Worksheet-8

MTH-05:Elementary Algebra (Quadratic Equations & Some Conics)

First Name:

Last Name:

1) Solve by using the square root property, $w^2 = 288$.

a) $\pm 6\sqrt{3}$

b) $\pm 8\sqrt{3}$

c) $\pm 12\sqrt{3}$

d) $\pm 12\sqrt{2}$

3) Solve $x^2 + 6x - 4 = 0$ by completing the square.

a) $3 \pm \sqrt{13}$

b) $-3 \pm \sqrt{13}$

c) $3 \pm \sqrt{14}$

d) $-3 \pm \sqrt{14}$

5) Solve by using quadratic formula : $t^2 + 7t + 4 = 0$

a) $\frac{7 \pm \sqrt{11}}{2}$

b) $\frac{-7 \pm \sqrt{33}}{2}$

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

d) $7, 4$

2) Solve : $(4x - 5)^2 - 6 = -3$

a) $x = \frac{25 \pm \sqrt{3}}{16}$

b) $x = \frac{-5 \pm \sqrt{3}}{4}$

c) $x = \frac{11 \pm \sqrt{-3}}{4}$

d) $x = \frac{5 \pm \sqrt{3}}{4}$

4) Solve $t^2 - 4t - 6 = 0$ by completing the square.

a) $4 \pm \sqrt{10}$

b) $2 \pm \sqrt{10}$

c) $2 \pm \sqrt{2}$

d) $4 \pm \sqrt{6}$

6) Solve : $2w^2 = -4w + 3$.

a) $\frac{2 \pm \sqrt{10}}{2}$

b) $\frac{-2 \pm \sqrt{10}}{4}$

c) $1 \pm \sqrt{10}$

d) $\frac{-2 \pm \sqrt{10}}{2}$

7) Use the quadratic formula to solve $2x^2 - 9x - 5 = 0$. The solution set is

a) 5 , $-\frac{1}{2}$

b) 2 , 2

c) 3 , 3

d) 4 , 4

9) The sum of the squares of two consecutive odd positive integers is 202. Find the integers.

a) -100 , -102

b) 100 , 102

c) -9 , -11

d) 9 , 11

8) Solve using the quadratic formula : $z^2 + 6z + 9 = 0$

a) 3 , -3

b) -3

c) $-3 \pm 3\sqrt{2}$

d) $3 \pm 3\sqrt{2}$

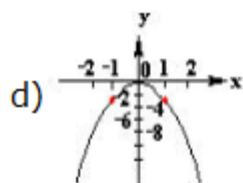
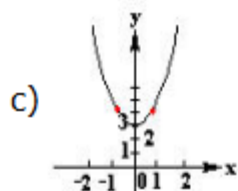
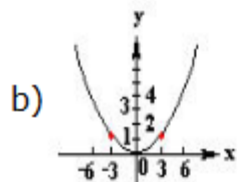
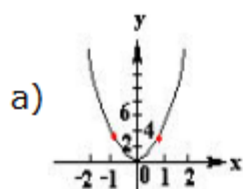
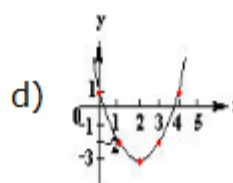
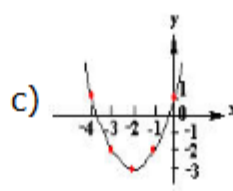
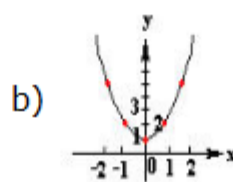
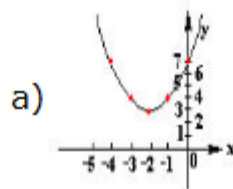
10) The area of a rectangle is 55 in^2 . The length of the rectangle is one more than twice the width. Find the length.

a) 5 in

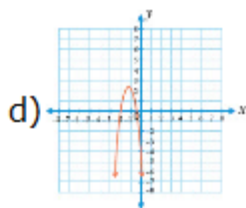
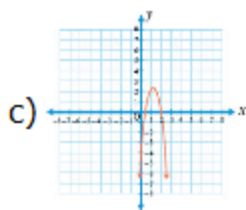
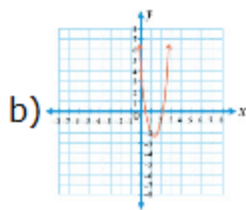
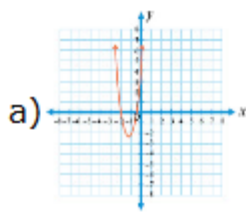
b) 11 in

c) $\frac{11}{2} \text{ in}$

d) 12 in

11) Graph $y = 3x^2$ 12) Graph $y = (x + 2)^2 - 3$ 

13) Which of the following is the graph of $g(x) = 4x^2 - 10x + 4$?



15) Estimate the solution to $2x^2 + 4x + 5 = 0$.

- a) (0.9 , -2.9)
- b) (2.9 , -0.9)
- c) No real solution
- d) (-0.9 , 2.9)

14) Find the vertex of the parabola given by $y = 3x^2 + 6x - 7$

- a) (-1 , -10)
- b) (0 , 7)
- c) (1 , 2)
- d) (-1 , 17)

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Answer Keys

1) d) $\pm 12\sqrt{2}$

3) b) $-3 \pm \sqrt{13}$

5) b) $\frac{-7 \pm \sqrt{33}}{2}$

7) a) $5, -\frac{1}{2}$

9) d) $9, 11$

11) a)

13) b)

15) c) No real solution

2) d) $x = \frac{5 \pm \sqrt{3}}{4}$

4) b) $2 \pm \sqrt{10}$

6) d) $\frac{-2 \pm \sqrt{10}}{2}$

8) b) -3

10) b) 11 in

12) c)

14) a) $(-1, -10)$