

Introductory Algebra, 3/e

Ignacio Bello

Chapter 9 - Radicals and Quadratic Equations

Form A-A

PRACTICE TEST

- Solve for x : $x^2 = 121$
A) -11 B) 11
C) $\sqrt{11}$ D) $11, -11$
- Solve for x : $25x^2 - 64 = 0$
A) $\frac{64}{25}, -\frac{64}{25}$ B) $\frac{5}{8}, -\frac{5}{8}$
C) $\frac{8}{5}, -\frac{8}{5}$ D) $\frac{25}{64}, -\frac{25}{64}$
- Solve for x : $16x^2 + 49 = 0$
A) no real solution B) $\frac{7}{4}, -\frac{7}{4}$
C) $\frac{7}{4}$ D) $-\frac{7}{4}$
- Solve for x : $36(x + 1)^2 - 5 = 0$
A) $1 + \frac{\sqrt{5}}{6}, 1 - \frac{\sqrt{5}}{6}$ B) $-1 + \frac{\sqrt{5}}{6}, -1 - \frac{\sqrt{5}}{6}$
C) $-1 + \frac{5}{6}, -1 - \frac{5}{6}$ D) $\frac{\sqrt{5}}{6}, -\frac{\sqrt{5}}{6}$
- Solve for x : $x^2 - 12 = 0$
A) $2\sqrt{3}$ B) $2\sqrt{3}, -2\sqrt{3}$
C) $4, -4$ D) $3\sqrt{2}, -3\sqrt{2}$

PRACTICE TEST

6. Solve for x : $2x^2 = 9$

A) $\frac{3\sqrt{2}}{2}$, $-\frac{3\sqrt{2}}{2}$ B) $\frac{3}{2}$, $-\frac{3}{2}$

C) $\frac{3\sqrt{2}}{2}$ D) $\frac{3}{2}$

7. Solve for x : $7x^2 - 32 = 0$

A) $\frac{4\sqrt{14}}{\sqrt{7}}$, $-\frac{4\sqrt{14}}{\sqrt{7}}$ B) $\frac{14\sqrt{4}}{\sqrt{7}}$, $-\frac{14\sqrt{4}}{\sqrt{7}}$

C) $\frac{4\sqrt{14}}{7}$, $-\frac{4\sqrt{14}}{7}$ D) $\frac{4\sqrt{2}}{7}$, $-\frac{4\sqrt{2}}{7}$

8. Simplify: $6\sqrt{5} + 2\sqrt{5} - 3\sqrt{5}$

A) $11\sqrt{5}$ B) 25

C) $5\sqrt{5}$ D) $\sqrt{25}$

9. Multiply: $\sqrt{12}(\sqrt{27} - \sqrt{12})$

A) $3\sqrt{36} - 2\sqrt{3}$ B) $18 - 4\sqrt{3}$

C) $6\sqrt{5}$ D) 6

10. Find the missing term: $(x + 8)^2 = x^2 + 16x + \underline{\hspace{2cm}}$

A) 64 B) 32

C) 16 D) 8

11. Find the missing terms: $x^2 + 4x + \underline{\hspace{2cm}} = (\underline{\hspace{2cm}})^2$

A) 4; $x + 2$ B) 4; $x - 2$

C) 4; $x - 4$ D) 4; $x + 4$

12. Find the number that must divide each term in the equation so that the equation can be solved by completing the square: $5x^2 + 4x = 24$

A) 24 B) 5

C) 4 D) x

PRACTICE TEST

13. Find the term that must be added to both sides of the equation so that the equation can be solved by the method of completing the square:

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

- A) -9 B) 18
C) 36 D) 9

14. Solve for x: $gx^2 + hx + k = 0$

A) $\frac{-h + \sqrt{h^2 - 4gk}}{2g}, \frac{-h - \sqrt{h^2 - 4gk}}{2g}$

B) $h + \frac{\sqrt{h^2 - 4gk}}{2g}, h - \frac{\sqrt{h^2 - 4gk}}{2g}$

C) $-h + \sqrt{\frac{h^2 - 4gk}{2g}}, -h - \sqrt{\frac{h^2 - 4gk}{2g}}$

D) $\frac{h + \sqrt{h^2 - 4gk}}{2g}, \frac{h - \sqrt{h^2 - 4gk}}{2g}$

15. Solve for x: $3x^2 - 2x - 5 = 0$

A) $\frac{5}{3}, -1$ B) $-\frac{5}{3}, 1$

C) 10, -6 D) 5, -3

16. Solve for x: $x^2 = 5x - 3$

A) $5 + \sqrt{13}, 5 - \sqrt{13}$ B) $\frac{5 + \sqrt{13}}{2}, \frac{5 - \sqrt{13}}{2}$

C) $\frac{-5 + \sqrt{13}}{2}, \frac{-5 - \sqrt{13}}{2}$ D) $-5 + \sqrt{13}, -5 - \sqrt{13}$

17. Solve for x: $25x = x^2$

A) 0, 5 B) -5, 5

C) 0, 25 D) 1, 25

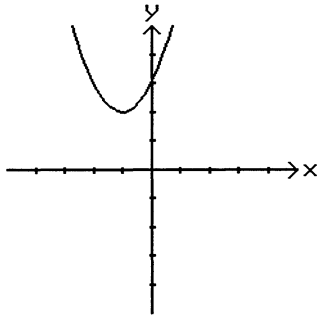
PRACTICE TEST

18. Solve for x : $\frac{x^2}{4} - \frac{7x}{4} = -\frac{5}{2}$

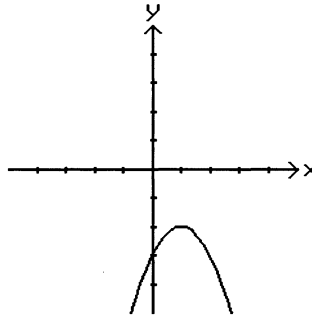
- A) 5, 2 B) $\frac{1}{5}, \frac{1}{2}$
C) $-\frac{1}{5}, -\frac{1}{2}$ D) -5, -2

19. Graph: $y = -(x - 1)^2 - 2$

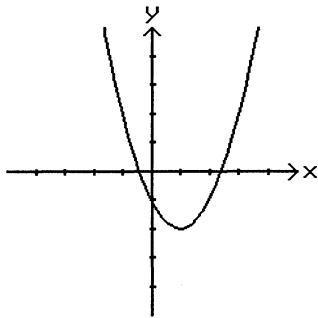
A)



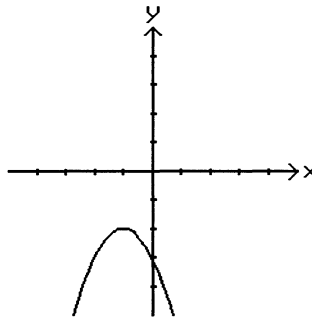
B)



C)



D)



20. The distance d (in meters, m) traveled by an object thrown downward with an initial velocity of v_0 after t seconds is given by the formula $d = 5t^2 + v_0t$. Find the number of seconds it takes an object to hit the ground if the object is dropped from a height of 605 m.

- A) 5 sec B) 11 sec
C) 121 sec D) $11\sqrt{5}$ sec