1. Solve the equation. $b^2 - 8b - 48 = 0$

A. $b = 9$ or $b = -6$

B. $b = -9$ or $b = 6$

C. $b = -12$ or $b = 3$

D. $b = 11$ or $b = -10$

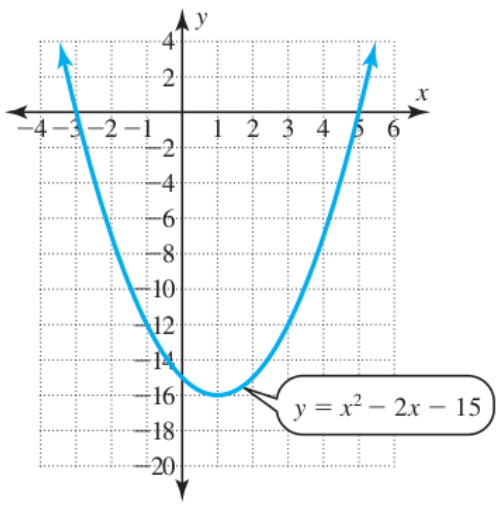
E. $b = -11$ or $b = 10$

F. $b = 12$ or $b = -3$

G. $b = -4$ or $b = 12$

H. $b = 4$ or $b = -12$

2. Use the graph of $y = x^2 - 2x - 15$ below to solve the equation $x^2 - 2x - 15 = 0$.



A. $x = 3$ or $x = 5$

B. $x = 3$ or $x = -5$

C. $x = -3$ or $x = -5$

D. $x = -3$ or $x = 5$

3. Solve the equation. $24u^2 = 58u - 30$

A. $u = \frac{1}{5}$ or $u = \frac{4}{7}$

B. $u = -\frac{1}{5}$ or $u = -\frac{4}{7}$

C. $u = -\frac{3}{4}$ or $u = -\frac{5}{3}$

D. $u = \frac{3}{4}$ or $u = \frac{5}{3}$

E. $u = -\frac{1}{2}$ or $u = -\frac{1}{5}$

F. $u = \frac{5}{3}$ or $u = 7$

G. $u = -\frac{5}{3}$ or $u = -7$

H. $u = \frac{1}{2}$ or $u = \frac{1}{5}$

4. Solve the equation. $42\gamma^2 + 23\gamma - 10 = 0$

A. $\gamma = -\frac{5}{6}$ or $\gamma = \frac{2}{7}$

B. $\gamma = \frac{7}{5}$ or $\gamma = -2$

C. $\gamma = -\frac{2}{7}$ or $\gamma = \frac{1}{4}$

D. $\gamma = -2$ or $\gamma = 8$

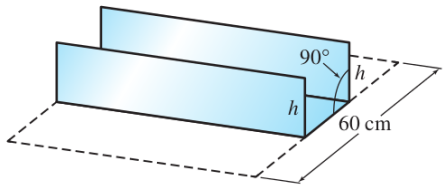
E. $\gamma = -\frac{7}{5}$ or $\gamma = 2$

F. $\gamma = \frac{5}{6}$ or $\gamma = -\frac{2}{7}$

G. $\gamma = \frac{2}{7}$ or $\gamma = -\frac{1}{4}$

H. $\gamma = 2$ or $\gamma = -8$

5. A metal sheet 60 cm wide is used to form a trough by bending up each side as illustrated in the figure. Determine the height of each side if the cross-sectional area is 450 cm2.



A. The height is 14.5 cm.

B. The height is 17 cm.

C. The height is 15 cm.

D. The height is 14 cm.

E. The height is 15.5 cm.

F. The height is 17.5 cm.

G. The height is 16.5 cm.

H. The height is 16 cm.

6. Solve the equation. $42\xi^2 = 10\xi + 12$

A. $\xi = -\frac{2}{3}$ or $\xi = 2$

B. $\xi = -\frac{1}{4}$ or $\xi = 4$

C. $\xi = \frac{2}{3}$ or $\xi = -2$

D. $\xi = \frac{3}{7}$ or $\xi = -\frac{2}{3}$

E. $\xi = -\frac{3}{7}$ or $\xi = \frac{2}{3}$

F. $\xi = 2$ or $\xi = -\frac{1}{4}$

G. $\xi = -2$ or $\xi = \frac{1}{4}$

H. $\xi = \frac{1}{4}$ or $\xi = -4$

7. Construct a quadratic equation with the following solutions $r = \frac{7}{17}$ or $r = \frac{5}{2}$.

A. $10r^2 + 39r + 33 = 0$

B. $35r^2 + 45r + 22 = 0$

C. $10r^2 - 39r + 33 = 0$

D. $34r^2 - 99r + 35 = 0$

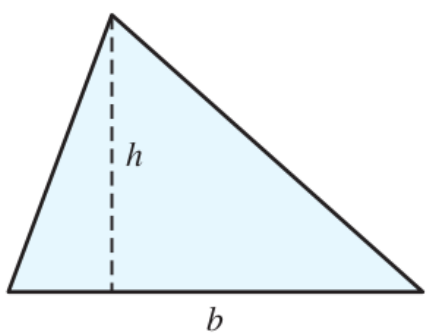
E. $34r^2 + 99r + 35 = 0$

F. $4r^2 - 24r + 65 = 0$

G. $4r^2 + 24r + 65 = 0$

H. $35r^2 - 45r + 22 = 0$

8. The base of a triangle in the figure is 2 m longer than the height. Find the base if the area of this triangle is 24 m^2.



A. The height is 6 m and the base is 8 m.

B. The height is 3 m and the base is 8 m.

C. The height is 8 m and the base is 3 m.

D. The height is 6 m and the base is 4 m.

E. The height is 8 m and the base is 6 m.

F. The height is 4 m and the base is 6 m.

G. The height is 2 m and the base is 6 m.

H. The height is 6 m and the base is 2 m.