

## Slide the Eraser Questions

The height of a triangle is 2 inches longer than the base and its area is 18 square inches. Find the base.

$$4x^2 + 12x = 135$$

Two trains traveling the same speed leave the city. The southbound train reaches its destination in 45 minutes. The eastbound train reaches its destination in 1 hour. How fast were the trains traveling if their destinations are 88 miles apart?

Ten less than four times a number is 26. Find the number.

The length of a room is 8 feet longer than its width. Write an algebraic expression for the perimeter of a room with width  $x$  feet.

$$\text{Solve for } x. \quad \frac{3}{4}x - \frac{1}{2}(x+5) = 2$$

$$\text{Solve for } x. \quad 3(2x - (7x - 1)) = 5x + 13$$

$$\text{Solve for } x. \quad 4ax - 3(x + 5) = -4x + 13$$

$$\text{Solve for } x. \quad |x^2 - 2x| = 3x - 6$$

$$\text{Solve for } x. \quad \frac{4}{x} - \frac{3}{x+1} = 7$$

$$\text{Solve for } x. \quad \sqrt{15x+4} = 4 - \sqrt{2x+3}$$

$$\text{Solve for } x. \quad (x^2 + 4)^{\frac{2}{3}} = 25$$

$$\text{Solve for } x. \quad x^3 - 5x - 2x^2 = -10$$

$$\text{Solve for } x. \quad 3x^3 - 24x^2 + 21x = 0$$

$$\text{Solve by completing the square.} \quad 2x^2 - 8x + 5 = 0$$

## Answers

base is 5.08 inches

$$-15/2, 9/2$$

70.4 mph

The number is 9.

$$P = 2x + 2(x+8)$$

$$X = 18$$

$$x = -1/2$$

$$x = \frac{28}{4a+1}$$

$$X = 2 \text{ and } 3$$

$$x = \frac{-3 \pm \sqrt{37}}{7}$$

$$X = 11/169$$

$$X = -11 \text{ or } 11$$

$$x = 2, \pm\sqrt{5}$$

$$X = 0, -1, -7$$

$$x = 2 \pm \frac{\sqrt{6}}{2}$$