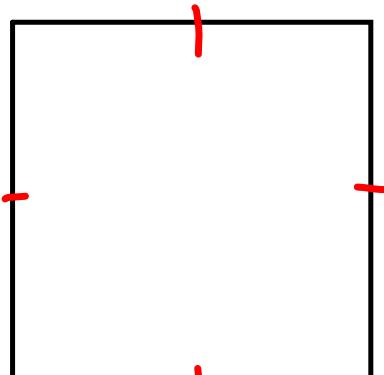


Find the numerical value for
a number
the perimeter and the area
of this square.

$$\frac{3x+20}{x-4}$$



$$\frac{3x+20}{x-4} = \frac{3x^2 + 16x + 5}{x^2 - 25}$$

simplify) $\frac{3x+20}{x-4} = \frac{(3x+1)(x+5)}{(x+5)(x-5)}$

$$x \neq \{-5, 4, 5\}$$

$$\frac{3x+20}{x-4} = \frac{3x+1}{x-5}$$

$$\frac{3x^2 + 16x + 5}{x^2 - 25}$$

$$\underbrace{m+n=15}_{15,1} \quad m+n=16$$

$$\begin{aligned} & 3x^2 + x + 15x + 5 \\ & x(3x+1) + 5(3x+1) \\ & (3x+1)(x+5) \end{aligned}$$

$$\frac{3x+20}{x-4} = \frac{3x+1}{x-5}$$

$$(3x+20)(x-5) = (3x+1)(x-4)$$

$$3x^2 - 15x + 20x - 100 = 3x^2 - 12x + x - 4$$

$$\begin{array}{r} 3x^2 + 5x - 100 \\ - 3x^2 \\ \hline + 5x \end{array} \quad \begin{array}{r} 3x^2 - 11x - 4 \\ - 3x^2 \\ \hline + 11x \end{array}$$

$$16x - 100 = -4 \\ +100 \qquad +100$$

$$16x = 96 \\ \div 16 \qquad \div 16$$

$$\underline{\underline{x=6}}$$

Answer: Perimeter is $19 \times 4 = 76$ units

Area is $19 \times 19 = 361$ units squared

$$\begin{array}{c} \frac{3x+20}{x-4} \\ \boxed{} \\ \frac{3x^2+16x+5}{x^2-25} \\ \text{or} \\ \frac{3x+1}{x-5} \end{array}$$

$$\begin{array}{l} \frac{3(6)+20}{6-4} = \frac{38}{2} = 19 \\ \text{check } \frac{3(6)+1}{6-5} = \frac{19}{1} = 19 \end{array} \quad \checkmark$$

The perimeter of the right triangle below is $2a+5$. Find the length of the missing side.

$$① S_1 + S_2$$

$$\textcircled{1} \quad S_1 + S_2$$

S_1

$$\frac{a^2 - 15a + 24}{a - 6} + \frac{a^2 - 6}{a - 6}$$

$$\frac{a^2 - 15a + 24}{a - 6}$$

$$\frac{a^2 - 6}{a - 6}$$

$$\frac{2a^2 - 15a + 18}{a-6} \rightarrow a \neq 6$$

simplify

$\left. \begin{matrix} mxn = 3b \\ m+n = 15 \end{matrix} \right\} -12, -3$

$$2a^2 - 12a - 3a + 18$$

$$2a(a-6) - 3(a-6)$$

$$(a-6)(2a-3)$$

$$?S_3 + S_2 = \frac{(2a \cdot 3)(a+6)}{(a+6)} = 2a \cdot 3$$

$$\textcircled{2} \quad P - (s_1 + s_2) = (2a+5) - (2a-3)$$

$$= 2a+5 - 2a+3$$

$$= 8 \text{ units}$$