

① Evaluate each: $(-9)^{\frac{1}{2}} = \sqrt{-9}$ DNE

a) $-9^{\frac{1}{2}} = -\sqrt{9} = -3$

b) $16^{\frac{3}{4}} = (\sqrt[4]{16})^3 = 2^3 = 8$

$$a^{\frac{1}{n}} = \sqrt[n]{a}$$

$$a^{\frac{m}{n}} = \sqrt[n]{a^m} = (\sqrt[n]{a})^m$$

② $g(x) = -\frac{1}{2}x^2 - 2x + 1$

If $ax^2 + bx + c = 0$,

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

a) Does the graph open up? Down?

b) Find the coordinates of the vertex.

$$x = \frac{-b}{2a} = \frac{-(-2)}{2(-\frac{1}{2})} = \frac{2}{-1} = -2$$

$$g(-2) = -\frac{1}{2}(-2)^2 - 2(-2) + 1$$

$$= -\frac{1}{2}(4) + 4 + 1$$

$$= -2 + 5$$

Vertex: $(-2, 3)$

$$\sqrt{16} = 4$$

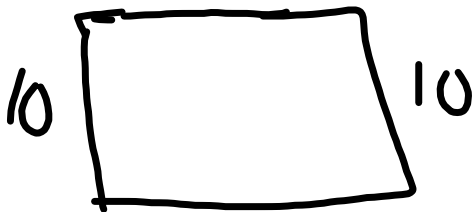
$$x^2 = 16$$

$$x = 4, -4$$

$$x = y^2 + 3y - 1$$

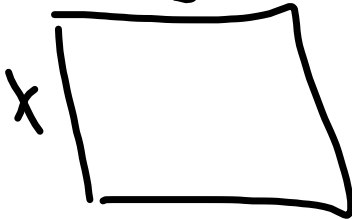
The length of a rectangle is 3 more than twice its width. The perimeter is 45. What are the length and width?

$$2(10)+3=23$$



$$P = 23 + 10 + 23 + 10 = 66$$

$$2x+3$$



$$P = x + 2x + 3 + x + 2x + 3 = 45$$

$$6x + 6 = 45$$

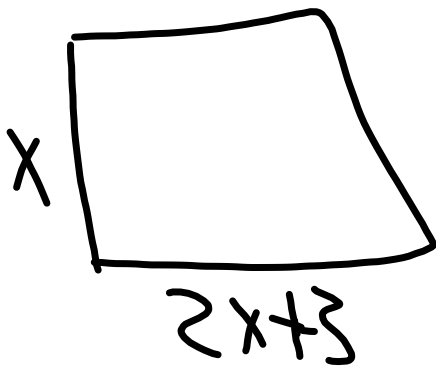
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$$x = 6.5$$

$$2(6.5)+3=16$$

length is 16, width is 6.5

The length of a rectangle is 3 more than twice its width. The area is 860. What are the length and width?



$$(2x+3)(x) = 860$$

$$2x^2 + 3x = 860$$

$$2x^2 + 3x - 860 = 0$$

Do 80% of stuff

Do 80% good

$$80\% \text{ of } 80\% = 64\%$$

D

$$\frac{4}{6} = \frac{2}{3}$$

one
↓

$$\frac{3}{\sqrt{2}} = \frac{3}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{3\sqrt{2}}{\sqrt{4}} = \frac{3\sqrt{2}}{2}$$

Method of rationalizing the denominator
 of improper fractions
 in bottom

Rationalizing the denominator.