

Name: _____ Date: _____

1 Simplify.

$$1^{\frac{1}{2}}$$

2 Multiply. Write your answer in simplest form.

$$-\sqrt{2}(-8 - \sqrt{5})$$

3 Factor completely.

$$x^4 + 18x^2 + 81$$

*All factors in your answer should have integer coefficients.

4 Factor the quadratic.

$$w^2 + 20w + 19$$

5 Rewrite the following equation in standard form.

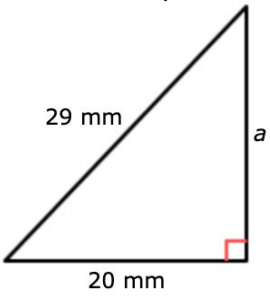
$$y = -x + 3$$

6 Screen-printing a batch of shirts requires 2 minutes per shirt in addition to 1 minute of initial set-up time. How long does it take to screen-print a batch of 2 shirts? Write and solve an equation to find the answer.

7 Complete the square. Fill in the number that makes the polynomial a perfect-square quadratic.

$$v^2 + 10v + \underline{\hspace{2cm}}$$

8 What is the perimeter?

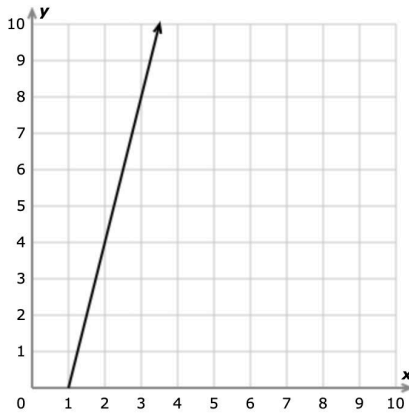


_____ millimeters

9 Sarah builds custom-made bicycles. The frames come in 8 sizes and 2 colors. The wheels come in 4 sizes. How many different bicycles is it possible for Sarah to build?

_____ bicycles

10 Find the slope.



Name: _____ Date: _____

1 Simplify.

Write the exponent using a radical and simplify.

$$1^{\frac{1}{2}} = \sqrt{1} = 1$$

2 Multiply. Write your answer in simplest form.

$$-\sqrt{2}(-8 - \sqrt{5}) = 8\sqrt{2} + \sqrt{10}$$

3 Factor completely.

$$x^4 + 18x^2 + 81 = (x^2 + 9)^2$$

*All factors in your answer should have integer coefficients.

4 Factor the quadratic.

$$w^2 + 20w + 19 = (w + 1)(w + 19)$$

5 Rewrite the following equation in standard form.

$$y = -x + 3 \Rightarrow x + y = 3$$

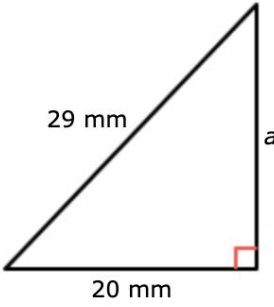
6 Screen-printing a batch of shirts requires 2 minutes per shirt in addition to 1 minute of initial set-up time. How long does it take to screen-print a batch of 2 shirts? Write and solve an equation to find the answer.

5 minutes

7 Complete the square. Fill in the number that makes the polynomial a perfect-square quadratic.

$$v^2 + 10v + \underline{25}$$

8 What is the perimeter?



70 millimeters

9 Sarah builds custom-made bicycles. The frames come in 8 sizes and 2 colors. The wheels come in 4 sizes. How many different bicycles is it possible for Sarah to build?

$$8 \times 2 \times 4 = 64$$

64 bicycles

10 Find the slope.

4

