

Lesson 4.5 Worksheet

Name: _____

Simplify the expression.

1.) $\sqrt{28}$

2.) $\sqrt{192}$

3.) $\sqrt{150}$

4.) $\sqrt{3} \cdot \sqrt{27}$

5.) $4\sqrt{6} \cdot \sqrt{6}$

6.) $5\sqrt{24} \cdot 3\sqrt{10}$

7.) $\sqrt{\frac{5}{16}}$

8.) $\frac{7}{\sqrt{12}}$

9.) $\sqrt{\frac{13}{28}}$

10.) $\frac{2}{1 - \sqrt{3}}$

11.) $\frac{1}{5 + \sqrt{6}}$

12.) $\frac{\sqrt{2}}{4 + \sqrt{5}}$

Solve the equation. Write your solutions as simplified radicals.

13.) $a^2 = 169$

14.) $b^2 = 50$

15.) $4p^2 = 448$

$$16.) \frac{t^2}{20} + 8 = 15$$

$$17.) 4(x - 1)^2 = 8$$

$$18.) 7(x - 4)^2 - 18 = 10$$

Graph the quadratic function and identify its features (fill in the blanks).

$$19.) y = -2x^2 + 4x + 1$$

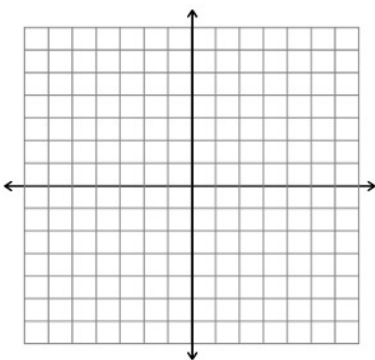
AOS: _____

vertex: _____

y-int: _____

opens: _____

max./min. value: _____



| | | | | | |
|---|--|--|--|--|--|
| x | | | | | |
| y | | | | | |

work:

$$20.) y = -(x + 3)^2 - 2$$

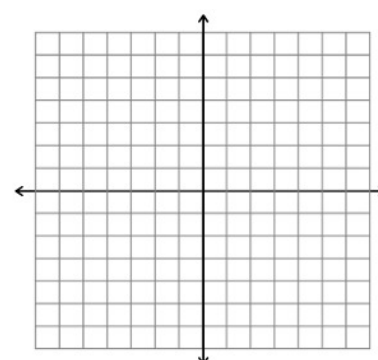
AOS: _____

vertex: _____

y-int: _____

opens: _____

max./min. value: _____



| | | | | | |
|---|--|--|--|--|--|
| x | | | | | |
| y | | | | | |

work:

Factor the expression.

$$21.) x^2 + 21x + 108$$

$$22.) 10a^2 - 19a + 7$$

23.) A woodland jumping mouse hops along a parabolic path given by $y = -0.2x^2 + 1.3x$ where x is the mouse's horizontal position (in feet) and y is the corresponding height (in feet). Can the mouse jump over a fence that is 3 feet high? Explain/show how you know.