

**LEVEL: EMERGING**

1) List the perfect squares between 1 – 15

Directions: Completely simplify the following radicals.

2)  $\sqrt{100}$

3)  $\sqrt{64}$

4)  $\sqrt{9}$

5)  $\sqrt{20}$

6)  $\sqrt{68}$

7)  $\sqrt{108}$

8)  $\sqrt{202}$

**LEVEL: PROFICIENT**

Directions: Completely simplify the following radicals.

9)  $\sqrt{18x^2}$

10)  $\sqrt{384a^3}$

11)  $\sqrt{175x}$

12)  $\sqrt{32n^4}$

13)  $\sqrt{54r^9}$

14)  $\sqrt{12k}$

15) The Pythagorean Theorem ( $a^2 + b^2 = c^2$ ) can be used to find the unknown side length of a right triangle. If a student calculates the length of the hypotenuse,  $c$ , to be  $\sqrt{54}$ , write the length of the hypotenuse as a simplified radical.

16) The Distance Formula,  $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ , can be used to find the distance between two points on a coordinate plane. A student used this formula to calculate the distance between points A and B to be  $\sqrt{350}$  units. Write this distance as a simplified radical.

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### LEVEL: MASTERY

Directions: Completely simplify the following radicals.

17)  $\sqrt{288x^3y^2}$

18)  $\sqrt{24x^2y^4}$

19)  $\sqrt{200x^4y^4}$

20)  $\sqrt{144x^2y^8}$

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### Worksheet 1.2Answers

- 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225
- 10
- 8
- 3
- $2\sqrt{5}$
- $2\sqrt{17}$
- $6\sqrt{3}$
- $\sqrt{202}$
- $3x\sqrt{2}$
- $8a\sqrt{6a}$

- $5\sqrt{7x}$
- $4n^2\sqrt{2}$
- $3r^4\sqrt{6r}$
- $2\sqrt{3x}$
- $h = 3\sqrt{6}$
- $5\sqrt{4}$  units
- $12xy\sqrt{2x}$
- $2y^2x\sqrt{6}$
- $10x^2y^2\sqrt{2}$
- $12xy^4$