

Warm-Up:
Simplify.

1) $\sqrt{162}$



$\sqrt{81} \sqrt{2}$
 $9\sqrt{2}$

2) $\sqrt{250}$



$\sqrt{25} \sqrt{10}$
 $5\sqrt{10}$

41, 43, 44

41) $s = \sqrt{30fd}$ $f = 0.6$

$s = \sqrt{30(6)d}$

$s = \sqrt{180d} = \sqrt{9} \sqrt{20d}$

$s = 3\sqrt{20d}$

43) $s = \sqrt{30fd}$ $f = 0.6$ $d = 110$ ft

$s = \sqrt{30(6)(110)}$

$s = \sqrt{1980} = \sqrt{36} \sqrt{55}$

$s = 6\sqrt{55} \approx 44.5$ ft

$s = \sqrt{30fd}$ $f = 0.8$ $d = 110$

$s = \sqrt{30(8)(110)}$

$s = \sqrt{2640} = \sqrt{16} \sqrt{165}$

$s = 4\sqrt{165} \approx 51.4$ mph

44) 

$3\sqrt{5} \cdot 4\sqrt{10}$

$12\sqrt{50} = 12\sqrt{25} \sqrt{2}$

$60\sqrt{2} \text{ cm}^2$

A simplified fraction has no radicals in the denominator.

Examples:

Simplify.

$$4) \frac{\sqrt{12}}{\sqrt{5}} = \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{60}}{\sqrt{25}} = \frac{\sqrt{4}\sqrt{15}}{5} = \frac{2\sqrt{15}}{5}$$

$$5) \frac{\sqrt{3n}}{\sqrt{8}} = \frac{\sqrt{8}}{\sqrt{8}} = \frac{\sqrt{24n}}{\sqrt{64}} = \frac{\sqrt{4}\sqrt{6n}}{8} = \frac{\cancel{2}\sqrt{6n}}{\cancel{4}8} = \frac{\sqrt{6n}}{4}$$

Examples:

Simplify.

$$6) \frac{3}{(5 - \sqrt{2})} \cdot \frac{(5 + \sqrt{2})}{(5 + \sqrt{2})}$$

$$\frac{15 + 3\sqrt{2}}{25 + \cancel{5\sqrt{2}} \cdot \cancel{5\sqrt{2}} - 14}$$

$$\frac{15 + 3\sqrt{2}}{23}$$

Homework: Worksheet 10-1