

Name: _____

Date: _____

Square Roots and Irrational Numbers Algebra 1 Homework

Skills

1. Express each of the following irrational numbers in simplest radical form.

(a) $\sqrt{50}$

(b) $\sqrt{72}$

(c) $\sqrt{54}$

(d) $5\sqrt{8}$

(e) $7\sqrt{45}$

(f) $-3\sqrt{80}$

(g) $\frac{1}{2}\sqrt{32}$

(h) $-\frac{2}{3}\sqrt{27}$

(i) $\frac{5}{2}\sqrt{200}$

(j) $-5\sqrt{40}$

(k) $\frac{4}{3}\sqrt{162}$

(l) $-3\sqrt{98}$

2. Evaluate each of the following products. Place each answer in simplest radical form. The first is done as an example for you to follow.

(a) $\sqrt{2} \cdot \sqrt{6}$

(b) $\sqrt{5} \cdot \sqrt{10}$

(c) $\sqrt{6} \cdot \sqrt{8}$

(d) $\sqrt{15} \cdot \sqrt{3}$

$$\sqrt{2} \cdot \sqrt{6} = \sqrt{12}$$

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

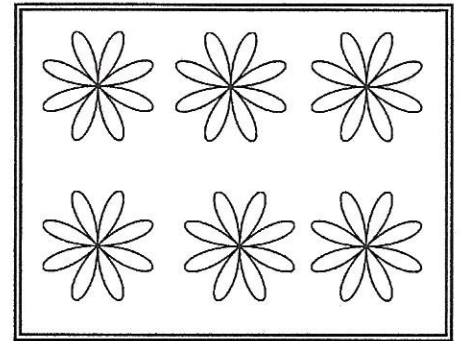
$$= 2\sqrt{3}$$

Applications

3. A rectangular flower garden is shown at the right. It has a length given by $\sqrt{15}$ yards and a width given by $\sqrt{10}$ yards. Answer the following questions based on this information.

(a) Find the area of the garden in simplest radical form.

$\sqrt{10}$ yds



(b) Find the area of the garden to the nearest *tenth* of a square yard.

(c) If it costs \$2.50 per square yard to cover the garden with fertilizer, then how much does it cost to apply fertilizer to the entire area that you found in part (b)?