

Math 20-2
Radicals Review

Name:

Show all your work for full marks.

1. Express each entire radical as a mixed radical in simplest form.

a. $\sqrt{60}$

b. $\sqrt[3]{270}$

2. Express each mixed radical as an entire radical.

a. $7\sqrt{3}$

b. $5\sqrt[3]{2}$

3. Simplify each expression.

a. $\sqrt{24} - \sqrt{150} - \sqrt{54}$

b. $-\sqrt{300} + \sqrt{108} - \sqrt{75}$

c. $9\sqrt{75} + 2\sqrt{300} + 6\sqrt{9} + 4\sqrt{12}$.

d. $2\sqrt{50} + 7\sqrt{20} + 3\sqrt{200} - 4\sqrt{500}$

Name:

4. Simplify each expression.

a. $2\sqrt{3} \cdot \sqrt{26}$

b. $\sqrt{5}(2\sqrt{7} - \sqrt{8})$

c. $(3 + \sqrt{5})(3 - \sqrt{5})$

d. $(4\sqrt{3} - 2\sqrt{7})^2$

5. A park has a width of $\sqrt{15}$ m and a length of $7\sqrt{21}$ m. Determine the area of the park.

6. Write in simplest form.

a. $\frac{4\sqrt{78}}{\sqrt{6}}$

b. $\frac{\sqrt{700}}{\sqrt{35}}$

Name:

c. $\frac{5\sqrt{324}}{\sqrt{8}}$

d. $\frac{\sqrt{190}}{3\sqrt{6}}$

e. $\frac{\sqrt{2}+3}{\sqrt{5}}$

f. $\frac{3\sqrt{6}-\sqrt{3}}{4\sqrt{8}}$

7. Multiply or divide.

a. $\sqrt{3x}(\sqrt{4x^2} + 2\sqrt{x})$

b. $(3\sqrt{x}-1)(2\sqrt{x}+7)$

c. $\frac{\sqrt{24x^3}}{\sqrt{8x}}$

d. $\frac{-72\sqrt{y^9}}{6\sqrt{y^3}}$

Name:

8. Solve for x.

a. $\sqrt{x} = 15$

b. $\sqrt{8+x} = 3$

c. $2\sqrt{x} = 10$

d. $6\sqrt{2x} = 12$

e. $\sqrt[3]{x-20} + 5 = 2$

f. $\sqrt{68-4x} + 3 = x+1$ (Bonus)