

Assignment

Date _____ Period _____

Simplify.

1) $(-4 - 6\sqrt{7x})(6 + \sqrt{7})$

2) $(-7\sqrt{6m} - 5)(\sqrt{6m} - 1)$

3) $(\sqrt{5b} + 3)(\sqrt{5} - 6)$

4) $\frac{3}{\sqrt{2}}$

5) $\frac{3\sqrt{4}}{\sqrt{5}}$

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

7) $\frac{5\sqrt{2} - 2\sqrt{5}}{\sqrt{14}}$

8) $\frac{3 - 2\sqrt{2}}{3\sqrt{3} + 3\sqrt{2}}$

9) $\frac{3\sqrt{2} + \sqrt{3}}{-3 - 4\sqrt{5}}$

Write each expression in radical form.

10) $(3v)^{\frac{7}{4}}$

11) $p^{\frac{5}{2}}$

12) $(10a)^{\frac{5}{4}}$

13) $(7r)^{-\frac{1}{2}}$

Write each expression in exponential form.

14) $\frac{1}{(\sqrt[3]{6})^2}$

15) $\sqrt[3]{6}$

16) $\frac{1}{(\sqrt{5p})^3}$

17) $\sqrt{2p}$

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Simplify.

$$1) (-4 - 6\sqrt{7x})(6 + \sqrt{7})$$

$$-24 - 4\sqrt{7} - 36\sqrt{7x} - 42\sqrt{x}$$

$$2) (-7\sqrt{6m} - 5)(\sqrt{6m} - 1)$$

$$-42m + 2\sqrt{6m} + 5$$

$$3) (\sqrt{5b} + 3)(\sqrt{5} - 6)$$

$$5\sqrt{b} - 6\sqrt{5b} + 3\sqrt{5} - 18$$

$$4) \frac{3}{\sqrt{2}} \frac{3\sqrt{2}}{2}$$

$$5) \frac{3\sqrt{4}}{\sqrt{5}} \frac{6\sqrt{5}}{5}$$

$$6) \frac{3 + 3\sqrt{5}}{2\sqrt{3}} \frac{\sqrt{3} + \sqrt{15}}{2}$$

$$7) \frac{5\sqrt{2} - 2\sqrt{5}}{\sqrt{14}} \frac{5\sqrt{7} - \sqrt{70}}{7}$$

$$8) \frac{3 - 2\sqrt{2}}{3\sqrt{3} + 3\sqrt{2}} \frac{3\sqrt{3} - 3\sqrt{2} - 2\sqrt{6} + 4}{3}$$

$$9) \frac{3\sqrt{2} + \sqrt{3}}{-3 - 4\sqrt{5}} \frac{9\sqrt{2} - 12\sqrt{10} + 3\sqrt{3} - 4\sqrt{15}}{71}$$

Write each expression in radical form.

$$10) (3v)^{\frac{7}{4}}$$

$$(\sqrt[4]{3v})^7$$

$$11) p^{\frac{5}{2}}$$

$$(\sqrt{p})^5$$

$$12) (10a)^{\frac{5}{4}}$$

$$(\sqrt[4]{10a})^5$$

$$13) (7r)^{-\frac{1}{2}} \frac{1}{\sqrt{7r}}$$

Write each expression in exponential form.

$$14) \frac{1}{(\sqrt[3]{6})^2}$$

$$6^{-\frac{2}{3}}$$

$$15) \sqrt[3]{6}$$

$$6^{\frac{1}{3}}$$

$$16) \frac{1}{(\sqrt{5p})^3}$$

$$(5p)^{-\frac{3}{2}}$$

$$17) \sqrt{2p}$$

$$(2p)^{\frac{1}{2}}$$