

MasterMath

Simplifying Radical Expressions

Name _____

Date _____

1. Simplify these Expressions

| Expression | Simplified |
|---------------------------------------|---|
| $\sqrt{3}\sqrt{12}$ | $=\sqrt{36} = 6$ |
| $\sqrt{48}$ | $=\sqrt{16} \cdot \sqrt{3} = 4\sqrt{3}$ |
| $\sqrt{8}$ | $2\sqrt{2}$ |
| $\sqrt{72}$ | $=\sqrt{(2 \cdot 2 \cdot 2 \cdot 3 \cdot 3)} = 6\sqrt{2}$ |
| $\sqrt{(60y^2)}$ | $2y\sqrt{15}$ |
| $\sqrt{(126r^2)}$ | $3r\sqrt{14}$ |
| $(2\sqrt{15})/(\sqrt{12})$ | $\sqrt{5}$ |
| $\sqrt{(1/4x^3)}$ | $1/2x\sqrt{x}$ |
| $3/(\sqrt{8})$ | $3/4\sqrt{2}$ |
| $\sqrt{6(7\sqrt{3} + 6)}$ | $21\sqrt{2} + 6\sqrt{6}$ |
| $3\sqrt{7} - 5\sqrt{14} + 2\sqrt{28}$ | $7\sqrt{7} - 5\sqrt{14}$ |
| $\sqrt{(125c^2de^4)}$ | $5ce^2\sqrt{(5d)}$ |
| $\sqrt{(512ab^6)} \cdot \sqrt{c^3}$ | $16b^3c\sqrt{(2ac)}$ |
| $\sqrt{5} \cdot \sqrt{30}$ | $5\sqrt{6}$ |
| $\sqrt{(a^3/121)}$ | $(a\sqrt{a})/11$ |

Simplify these Expressions

2.

$$\frac{3}{\sqrt{x^3}} + \frac{4}{\sqrt{x}}$$

| |
|--------------------------------------|
| $\frac{3\sqrt{x} + 4x\sqrt{x}}{x^2}$ |
|--------------------------------------|

3.

$$\frac{\sqrt{10}}{7 - \sqrt{2}}$$

| |
|-------------------------------------|
| $\frac{7\sqrt{10} + 2\sqrt{5}}{47}$ |
|-------------------------------------|

4.

$$\frac{2\sqrt{6}}{\sqrt{30}} - \frac{3}{\sqrt{20}}$$

| |
|-----------------------|
| $\frac{\sqrt{5}}{10}$ |
|-----------------------|