Kuta Software - Infinite Algebra 1

Name_____

Dividing Radical Expressions

Date_____ Period____

Simplify.

1) $\frac{\sqrt{15}}{5\sqrt{20}}$

$\frac{\sqrt{3}}{10}$

2) $\frac{\sqrt{8}}{\sqrt{100}}$

$\frac{\sqrt{2}}{5}$

3) $\frac{\sqrt{6}}{\sqrt{27}}$

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

4) $\frac{3\sqrt{20}}{2\sqrt{4}}$

$\frac{3\sqrt{5}}{2}$

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

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

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

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

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

$\frac{\sqrt{15}}{3}$

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

$\frac{\sqrt{6}}{6}$

9) $\frac{\sqrt{3x^2y^3}}{4\sqrt{5xy^3}}$

$\frac{\sqrt{15x}}{20}$

10) $\frac{\sqrt{15xy}}{3\sqrt{10xy^3}}$

$\frac{\sqrt{6}}{6y}$

11) $\frac{3-3\sqrt{3a}}{4\sqrt{8a}}$

$\frac{3\sqrt{2a}-3a\sqrt{6}}{16a}$

12) $\frac{3n^2+\sqrt{2n^2}}{\sqrt{10n}}$

$\frac{3n\sqrt{10n}+2\sqrt{5n}}{10}$

Name_____

Multiplying Radical Expressions

Date_____ Period____

Simplify.

1) $3\sqrt{12} \cdot \sqrt{6}$

$18\sqrt{2}$

2) $\sqrt{5} \cdot \sqrt{10}$

$5\sqrt{2}$

3) $\sqrt{6} \cdot \sqrt{6}$

6

4) $\sqrt{5} \cdot -4\sqrt{20}$

-40

5) $-4\sqrt{15} \cdot -\sqrt{3}$

$12\sqrt{5}$

6) $\sqrt{20x^2} \cdot \sqrt{20x}$

$20x\sqrt{x}$

7) $\sqrt{15n^2} \cdot \sqrt{10n^3}$

$5n^2\sqrt{6n}$

8) $\sqrt{18a^2} \cdot 4\sqrt{3a^2}$

$12a^2\sqrt{6}$

9) $-3\sqrt{7r^3} \cdot 6\sqrt{7r^2}$

$-126r^2\sqrt{r}$

10) $-4\sqrt{28x} \cdot \sqrt{7x^3}$

$-56x^2$

11) $\sqrt{3}\left(5+\sqrt{3}\right)$

$5\sqrt{3}+3$

12) $2\sqrt{5}\left(\sqrt{6}+2\right)$

$2\sqrt{30}+4\sqrt{5}$

13) $-3\sqrt{3}\left(2+\sqrt{6}\right)$

$-6\sqrt{3}-9\sqrt{2}$

14) $\sqrt{3}\left(-5\sqrt{10}+\sqrt{6}\right)$

$-5\sqrt{30}+3\sqrt{2}$

15) $-2\sqrt{15}\left(-3\sqrt{3}+3\sqrt{5}\right)$

$18\sqrt{5}-30\sqrt{3}$

16) $5\sqrt{42x}\left(4+4\sqrt{7x}\right)$

$20\sqrt{42x}+140x\sqrt{6}$

17) $\sqrt{14x}\left(3-\sqrt{2x}\right)$

$3\sqrt{14x}-2x\sqrt{7}$

18) $\sqrt{6n}\left(7n^3+\sqrt{12}\right)$

$7n^3\sqrt{6n}+6\sqrt{2n}$

19) $\sqrt{3v}\left(\sqrt{6}+\sqrt{10}\right)$

$3\sqrt{2v}+\sqrt{30v}$

20) $\sqrt{21r}\left(5+\sqrt{7}\right)$

$5\sqrt{21r}+7\sqrt{3r}$

21) $\left(-2\sqrt{3}+2\right)\left(\sqrt{3}-5\right)$

$-16+12\sqrt{3}$

22) $\left(5-4\sqrt{5}\right)\left(-2+\sqrt{5}\right)$

$-30+13\sqrt{5}$

23) $\left(-2-3\sqrt{5}\right)\left(5-\sqrt{5}\right)$

$5-13\sqrt{5}$

24) $\left(\sqrt{5}-\sqrt{3}\right)\left(\sqrt{5}+\sqrt{3}\right)$

2

25) $\left(5\sqrt{2x}+\sqrt{5}\right)\left(-4\sqrt{2x}+\sqrt{5x}\right)$

$-40x+5x\sqrt{10}-4\sqrt{10x}+5\sqrt{x}$

26) $\left(-3\sqrt{3k}+4\right)\left(\sqrt{3k}-5\right)$

$-9k+19\sqrt{3k}-20$

27) $\left(5+4\sqrt{3}\right)\left(3+\sqrt{3}\right)$

$27+17\sqrt{3}$

28) $\left(3\sqrt{2}+\sqrt{5}\right)\left(\sqrt{2}-3\sqrt{5r}\right)$

$6-9\sqrt{10r}+\sqrt{10}-15\sqrt{r}$