Math 2   Name_____

Unit 3.2 Practice Multiply Radicals   Period____

Simplify.

1) $\sqrt{15} \cdot \sqrt{10}$

$5\sqrt{6}$

2) $\sqrt[4]{45} \cdot \sqrt[4]{9}$

$3\sqrt[4]{5}$

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

60

4) $5\sqrt[3]{16} \cdot -5\sqrt[3]{-12}$

$100\sqrt[3]{3}$

5) $3\sqrt{10}(3 + 3\sqrt{5})$

$9\sqrt{10} + 45\sqrt{2}$

6) $3\sqrt{3}(-2\sqrt{5} - 2\sqrt{6})$

$-6\sqrt{15} - 18\sqrt{2}$

7) $3\sqrt{15}(-4\sqrt{5r} + 2)$

$-60\sqrt{3r} + 6\sqrt{15}$

8) $-\sqrt{10}(-4\sqrt{10k} + 4k^2)$

$40\sqrt{k} - 4k^2\sqrt{10}$

9) $3\sqrt{15}(-2\sqrt{10} + 3)$

$-30\sqrt{6} + 9\sqrt{15}$

10) $2\sqrt{3n}(-3\sqrt{6} + 3n)$

$-18\sqrt{2n} + 6n\sqrt{3n}$

11) $3\sqrt{6}(5 - \sqrt{2})$

$15\sqrt{6} - 6\sqrt{3}$

12) $-5\sqrt{6}(3\sqrt{2b} + 3\sqrt{3b})$

$-30\sqrt{3b} - 45\sqrt{2b}$

13) $3\sqrt{5}\left(5n + 2\sqrt{10}\right)$

$15n\sqrt{5} + 30\sqrt{2}$

14) $2\sqrt{15b}\left(4\sqrt{3} + 4\right)$

$24\sqrt{5b} + 8\sqrt{15b}$

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

$60 - 24\sqrt{10}$

16) $\left(-2\sqrt{3} - 4\sqrt{5}\right)\left(-4\sqrt{5} - 4\sqrt{5}\right)$

$16\sqrt{15} + 160$

17) $\left(-2\sqrt{5n} - 3\right)\left(3\sqrt{5} + 1\right)$

$-30\sqrt{n} - 2\sqrt{5n} - 9\sqrt{5} - 3$

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

$-3x\sqrt{10} - 3x\sqrt{15} + x\sqrt{6} + 3x$

19) $\left(5\sqrt{3x} - 4\sqrt{2}\right)\left(-\sqrt{3x} + 3\sqrt{2}\right)$

$-15x + 19\sqrt{6x} - 24$

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

$75m - 25\sqrt{5m} + 10$

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

$10 + 6\sqrt{2x} + 15\sqrt{2} + 18\sqrt{x}$

22) $\left(-\sqrt{5k} - 4\right)\left(3\sqrt{5} - 2\right)$

$-15\sqrt{k} + 2\sqrt{5k} - 12\sqrt{5} + 8$

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

$-60v - 14v\sqrt{15}$

24) $\left(5\sqrt{3} - 3\sqrt{5v}\right)\left(-4\sqrt{3v} + 2\sqrt{5}\right)$

$-90\sqrt{v} + 10\sqrt{15} + 12v\sqrt{15}$