

More Review with Radicals and Exponents

Simplify. Your answer should contain only positive exponents.

1) $-4xy \cdot 4x^3y^3z^3$

2) $3zx^2y^2 \cdot -2x^4z^4$

3) $(-2ab^2)^2 \cdot -a^2b^2$

4) $2x^2y^4 \cdot (2x^3y^2)^3$

5) $\frac{x^2y^2 \cdot 3y^4}{-4yx^4}$

6) $\frac{3m^3n^4}{nm^4 \cdot 3nm^4}$

7) $\frac{(-2x^3)^4}{-x^2 \cdot 2y^3}$

8) $\frac{(-u^4v^4)^3 \cdot -2uv^4}{-2uv^4}$

Simplify.

9) $6\sqrt{36a^2b^2}$

10) $7\sqrt{28x^4y}$

11) $-3\sqrt{12mn^4}$

12) $-3\sqrt{48a^4b}$

13) $\sqrt{5a^2} \cdot 2\sqrt{10a^2}$

14) $\sqrt{12b^2} \cdot \sqrt{6b}$

15) $5\sqrt{6r^2} \cdot \sqrt{6r}$

16) $\sqrt{15x^3} \cdot -\sqrt{2x^2}$

17) $3\sqrt{5}(4\sqrt{10} + \sqrt{2})$

18) $\sqrt{3}(2\sqrt{6} + 2)$

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Simplify. Your answer should contain only positive exponents.

$$1) -4xy \cdot 4x^3y^3z^3$$
$$-16x^4y^4z^3$$

$$2) 3zx^2y^2 \cdot -2x^4z^4$$
$$-6z^5x^6y^2$$

$$3) (-2ab^2)^2 \cdot -a^2b^2$$
$$-4a^4b^6$$

$$4) 2x^2y^4 \cdot (2x^3y^2)^3$$
$$16x^{11}y^{10}$$

$$5) \frac{x^2y^2 \cdot 3y^4}{-4yx^4}$$
$$-\frac{3y^5}{4x^2}$$

$$6) \frac{3m^3n^4}{nm^4 \cdot 3nm^4}$$
$$\frac{n^2}{m^5}$$

$$7) \frac{(-2x^3)^4}{-x^2 \cdot 2y^3}$$
$$-\frac{8x^{10}}{y^3}$$

$$8) \frac{(-u^4v^4)^3 \cdot -2uv^4}{-2uv^4}$$
$$-u^{12}v^{12}$$

Simplify.

9) $6\sqrt{36a^2b^2}$

$36ab$

10) $7\sqrt{28x^4y}$

$14x^2\sqrt{7y}$

11) $-3\sqrt{12mn^4}$

$-6n^2\sqrt{3m}$

12) $-3\sqrt{48a^4b}$

$-12a^2\sqrt{3b}$

13) $\sqrt{5a^2} \cdot 2\sqrt{10a^2}$

$10a^2\sqrt{2}$

14) $\sqrt{12b^2} \cdot \sqrt{6b}$

$6b\sqrt{2b}$

15) $5\sqrt{6r^2} \cdot \sqrt{6r}$

$30r\sqrt{r}$

16) $\sqrt{15x^3} \cdot -\sqrt{2x^2}$

$-x^2\sqrt{30x}$

17) $3\sqrt{5}(4\sqrt{10} + \sqrt{2})$

$60\sqrt{2} + 3\sqrt{10}$

18) $\sqrt{3}(2\sqrt{6} + 2)$

$6\sqrt{2} + 2\sqrt{3}$