

Multiplying & Dividing With Radicals

Simplify.

1) $-2\sqrt{20} \cdot 2\sqrt{5}$

2) $\sqrt{20} \cdot -4\sqrt{15}$

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

4) $\sqrt{3}(-4\sqrt{10} + 4\sqrt{3})$

5) $(-4\sqrt{2} + 1)(-2\sqrt{2} - 5)$

6) $(1 + \sqrt{3})(-3 - 4\sqrt{3})$

7) $\sqrt{15}(\sqrt{2} + 5\sqrt{5n})$

8) $-2\sqrt{5}(4\sqrt{2b} + \sqrt{10b})$

9) $(\sqrt{2v} - 1)(-3\sqrt{2v} + 5)$

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

11) $\frac{4\sqrt{15}}{4\sqrt{16}}$

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

13) $\frac{-3 - 2\sqrt{2}}{\sqrt{25}}$

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

15) $\frac{\sqrt{6}}{\sqrt{15}}$

16) $-\frac{2}{\sqrt{3}}$

17) $\frac{5 - \sqrt{5}}{\sqrt{15}}$

18) $\frac{-2 + 5\sqrt{2}}{4\sqrt{10}}$

19) $\frac{2\sqrt{5} + \sqrt{3}}{\sqrt{13}}$

20) $\frac{4 - \sqrt{3}}{2\sqrt{11}}$

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

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

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

24) $\frac{4}{-3 - 4\sqrt{3}}$

25) $\frac{-4 + \sqrt{2}}{4 - 2\sqrt{2}}$

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

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

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

Multiplying & Dividing With Radicals

Simplify.

$$1) -2\sqrt{20} \cdot 2\sqrt{5}$$

$$-40$$

$$2) \sqrt{20} \cdot -4\sqrt{15}$$

$$-40\sqrt{3}$$

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

$$5 - \sqrt{30}$$

$$4) \sqrt{3}(-4\sqrt{10} + 4\sqrt{3})$$

$$-4\sqrt{30} + 12$$

$$5) (-4\sqrt{2} + 1)(-2\sqrt{2} - 5)$$

$$11 + 18\sqrt{2}$$

$$6) (1 + \sqrt{3})(-3 - 4\sqrt{3})$$

$$-15 - 7\sqrt{3}$$

$$7) \sqrt{15}(\sqrt{2} + 5\sqrt{5n})$$

$$\sqrt{30} + 25\sqrt{3n}$$

$$8) -2\sqrt{5}(4\sqrt{2b} + \sqrt{10b})$$

$$-8\sqrt{10b} - 10\sqrt{2b}$$

$$9) (\sqrt{2v} - 1)(-3\sqrt{2v} + 5)$$

$$-6v + 8\sqrt{2v} - 5$$

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

$$-4a\sqrt{10} - 8a\sqrt{6} + a\sqrt{15} + 6a$$

$$11) \frac{4\sqrt{15}}{4\sqrt{16}}$$

$$\frac{\sqrt{15}}{4}$$

$$12) \frac{2\sqrt{2}}{\sqrt{8}}$$

$$1$$

$$13) \frac{-3 - 2\sqrt{2}}{\sqrt{25}}$$

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

$$14) \frac{4\sqrt{5} + \sqrt{3}}{3\sqrt{9}}$$

$$\frac{4\sqrt{5} + \sqrt{3}}{9}$$

$$15) \frac{\sqrt{6}}{\sqrt{15}}$$

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

$$16) -\frac{2}{\sqrt{3}}$$

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

$$17) \frac{5 - \sqrt{5}}{\sqrt{15}}$$

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

$$18) \frac{-2 + 5\sqrt{2}}{4\sqrt{10}}$$

$$\frac{-\sqrt{10} + 5\sqrt{5}}{20}$$

$$19) \frac{2\sqrt{5} + \sqrt{3}}{\sqrt{13}}$$

$$\frac{2\sqrt{65} + \sqrt{39}}{13}$$

$$20) \frac{4 - \sqrt{3}}{2\sqrt{11}}$$

$$\frac{4\sqrt{11} - \sqrt{33}}{22}$$

$$21) \frac{5}{4 + \sqrt{5}}$$

$$\frac{20 - 5\sqrt{5}}{11}$$

$$22) -\frac{2}{3\sqrt{2} + 3}$$

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

$$23) \frac{5}{2\sqrt{2} + \sqrt{3}}$$

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

$$24) \frac{4}{-3 - 4\sqrt{3}}$$

$$\frac{12 - 16\sqrt{3}}{39}$$

$$25) \frac{-4 + \sqrt{2}}{4 - 2\sqrt{2}}$$

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

$$26) \frac{4 + \sqrt{3}}{-2 + 4\sqrt{3}}$$

$$\frac{10 + 9\sqrt{3}}{22}$$

$$27) \frac{2 + 5\sqrt{3}}{-3 + 4\sqrt{3}}$$

$$\frac{66 + 23\sqrt{3}}{39}$$

$$28) \frac{2 - 2\sqrt{3}}{4 + \sqrt{5}}$$

$$\frac{8 - 2\sqrt{5} - 8\sqrt{3} + 2\sqrt{15}}{11}$$