

Simplifying Radicals/Complex Numbers

Simplify.

1) $\sqrt{125}$

2) $\sqrt{27}$

3) $\sqrt{150}$

4) $\sqrt{20}$

5) $\sqrt{75}$

6) $6\sqrt{18}$

7) $-3\sqrt{200}$

8) $8\sqrt{72}$

9) $4\sqrt{80}$

10) $\frac{\sqrt{5}}{\sqrt{45}}$

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

12) $\frac{\sqrt{6}}{3\sqrt{30}}$

13) $\frac{6\sqrt{2}}{6\sqrt{12}}$

14) $-\frac{3}{\sqrt{3}}$

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

16) $\frac{4}{-1 - \sqrt{6}}$

17) $6 + 5i - (3 + 8i)$

18) $3 - 3i - (-7 - 8i)$

19) $9 - 9i - 11 - 9i$

20) $5i - 11 - (1 - 7i)$

21) $(-2 - 3i)^2$

22) $(5 + 5i)(-8 - 5i)$

23) $-10(4i)(7 - 5i)$

24) $(8 + 9i)^2$

25) $-\frac{6}{5i}$

26) $\frac{7}{8i}$

27) $\frac{5i}{3 + 5i}$

28) $\frac{6}{7 + 7i}$

29) $\frac{8}{5 - 2i}$

30) $\frac{8}{-2 + 2i}$

Simplifying Radicals/Complex Numbers

Simplify.

$$1) \sqrt{125}$$

$$5\sqrt{5}$$

$$2) \sqrt{27}$$

$$3\sqrt{3}$$

$$3) \sqrt{150}$$

$$5\sqrt{6}$$

$$4) \sqrt{20}$$

$$2\sqrt{5}$$

$$5) \sqrt{75}$$

$$5\sqrt{3}$$

$$6) 6\sqrt{18}$$

$$18\sqrt{2}$$

$$7) -3\sqrt{200}$$

$$-30\sqrt{2}$$

$$8) 8\sqrt{72}$$

$$48\sqrt{2}$$

$$9) 4\sqrt{80}$$

$$16\sqrt{5}$$

$$10) \frac{\sqrt{5}}{\sqrt{45}}$$

$$\frac{1}{3}$$

$$11) \frac{\sqrt{6}}{\sqrt{27}}$$

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

$$12) \frac{\sqrt{6}}{3\sqrt{30}}$$

$$\frac{\sqrt{5}}{15}$$

$$13) \frac{6\sqrt{2}}{6\sqrt{12}}$$

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

$$14) -\frac{3}{\sqrt{3}}$$

$$-\sqrt{3}$$

$$15) \frac{5}{2 - \sqrt{3}}$$
$$10 + 5\sqrt{3}$$

$$16) \frac{4}{-1 - \sqrt{6}}$$
$$\frac{4 - 4\sqrt{6}}{5}$$

$$17) 6 + 5i - (3 + 8i)$$
$$3 - 3i$$

$$18) 3 - 3i - (-7 - 8i)$$
$$10 + 5i$$

$$19) 9 - 9i - 11 - 9i$$
$$-2 - 18i$$

$$20) 5i - 11 - (1 - 7i)$$
$$-12 + 12i$$

$$21) (-2 - 3i)^2$$
$$-5 + 12i$$

$$22) (5 + 5i)(-8 - 5i)$$
$$-15 - 65i$$

$$23) -10(4i)(7 - 5i)$$
$$-200 - 280i$$

$$24) (8 + 9i)^2$$
$$-17 + 144i$$

$$25) -\frac{6}{5i}$$
$$\frac{6i}{5}$$

$$26) \frac{7}{8i}$$
$$-\frac{7i}{8}$$

$$27) \frac{5i}{3 + 5i}$$
$$\frac{15i + 25}{34}$$

$$28) \frac{6}{7 + 7i}$$
$$\frac{3 - 3i}{7}$$

$$29) \frac{8}{5 - 2i}$$
$$\frac{40 + 16i}{29}$$

$$30) \frac{8}{-2 + 2i}$$
$$-2 - 2i$$