

**Part 1   Simplifying Square Roots**

Simplify (reduce) each of the following square roots:

1.  $\sqrt{20}$

2.  $\sqrt{48}$

3.  $\sqrt{50}$

4.  $\sqrt{8}$

5.  $\sqrt{40}$

6.  $\sqrt{90}$

7.  $\sqrt{160}$

8.  $\sqrt{140}$

9.  $\sqrt{150}$

10.  $\sqrt{300}$

11.  $\sqrt{72}$

12.  $\sqrt{80}$

## Part 2 Multiplying square roots

EXAMPLES

A.  $\sqrt{2} \bullet \sqrt{10}$

B.  $5\sqrt{6} \bullet 3\sqrt{2}$

PROBLEMS

13.  $\sqrt{3} \bullet \sqrt{6}$

14.  $\sqrt{5} \bullet \sqrt{10}$

15.  $\sqrt{8} \bullet \sqrt{3}$

16.  $2\sqrt{6} \bullet 4\sqrt{2}$

17.  $3\sqrt{8} \bullet \sqrt{3}$

18.  $9\sqrt{2} \bullet 2\sqrt{20}$

## Part 3 Square roots and exponents

C.  $(\sqrt{8})^2$

19.  $(\sqrt{5})^2$

20.  $(\sqrt{7})^2$

21.  $(\sqrt{317})^2$

D.  $(5\sqrt{2})^2$

22.  $(7\sqrt{3})^2$

23.  $(8\sqrt{3})^2$

24.  $(2\sqrt{5})^2$

## Part 4 Rationalize the denominator

E.  $\frac{6}{\sqrt{2}}$

25.  $\frac{8}{\sqrt{2}}$

26.  $\frac{4}{\sqrt{3}}$

27.  $\frac{12}{\sqrt{3}}$

28.  $\frac{10}{\sqrt{2}}$