

Introductory Algebra, 3/e

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Chapter 10 - Applied Geometry

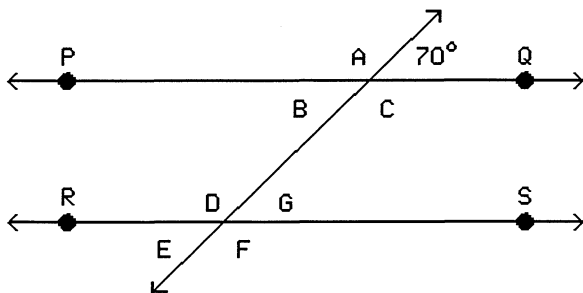
Form A-A

PRACTICE TEST

1. If $AB = 16$ and $AC = 26$, find the length of BC .



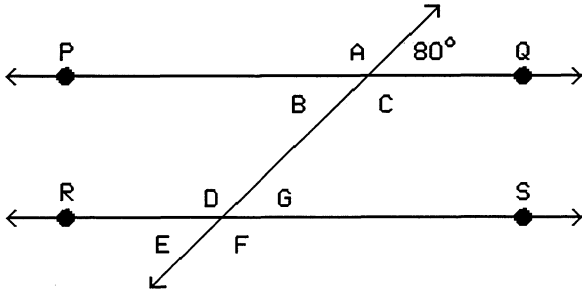
- A) 16 B) 10
C) 0 D) 42
2. If $\angle A$ and $\angle B$ are complementary angles and $m\angle A = 4m\angle B$, find $m\angle A$ and $m\angle B$.
- A) $45^\circ, 135^\circ$ B) $36^\circ, 144^\circ$
C) $22.5^\circ, 67.5^\circ$ D) $18^\circ, 72^\circ$
3. If $\angle A$ and $\angle B$ are supplementary angles and $m\angle A = 5m\angle B$, find $m\angle A$ and $m\angle B$.
- A) $15^\circ, 75^\circ$ B) $30^\circ, 150^\circ$
C) $18^\circ, 72^\circ$ D) $36^\circ, 144^\circ$
4. Find $m\angle C$ in the figure below. Lines PQ and RS are parallel.



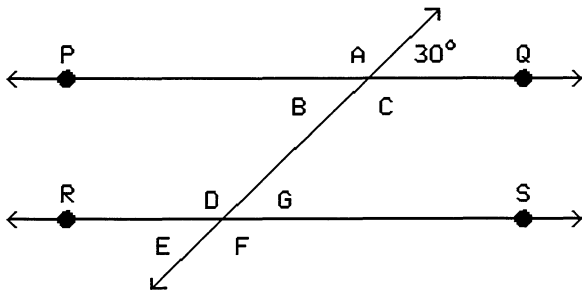
- A) 20° B) 110°
C) 70° D) 120°

PRACTICE TEST

5. Find $m\angle E$ in the figure below. Lines PQ and RS are parallel.



- A) 80° B) 110°
C) 100° D) 10°
6. Find $m\angle D$ in the figure below. Lines PQ and RS are parallel.



- A) 160° B) 30°
C) 150° D) 60°
7. In a triangle DEF, $m\angle D = 53^\circ$ and $m\angle F = 52^\circ$. Find $m\angle E$.
A) 85° B) 75°
C) 15° D) 255°
8. Find the perimeter of a rectangle 50.7 cm long and 40.8 cm wide.
A) 183 cm B) 91.5 cm
C) 203 cm D) 2068.56 cm

PRACTICE TEST

9. The perimeter of a rectangle is 186 inches. If the rectangle is 60 inches long, how wide is it?
- A) 33 in. B) 126 in.
C) 66 in. D) 63 in.
10. The circumference of a circle is 15.7 ft. Find its diameter.
(Use $\pi = 3.14$.)
- A) 10 ft B) $\sqrt{5}$ ft
C) $2\frac{1}{2}$ ft D) 5 ft
11. The area of a triangle is 7 in^2 . If the height is 3.5 inches, find the base.
- A) 49 in. B) 2 in.
C) 2 in^2 D) 4 in.
12. The area of a circle is 113.04 in^2 . Find its diameter.
- A) 6 in. B) 12 in.
C) 3 in. D) 36 in.
13. The length of one of the legs in a right triangle is 7 inches. If the hypotenuse is 12 inches long, find the length of the other leg.
- A) $\sqrt{193}$ in. B) 19 in.
C) 95 in. D) $\sqrt{95}$ in.
14. One leg of an isosceles right triangle is 50 inches long. Find the perimeter of the triangle.
- A) $150\sqrt{2}$ in. B) $(100 + 50\sqrt{2})$ in.
C) 150 in. D) $50\sqrt{2}$ in.

PRACTICE TEST

15. The shorter leg of a $30^\circ-60^\circ-90^\circ$ triangle is 5.4 inches long. Find the perimeter.
- A) $21.6\sqrt{3}$ in. B) $(16.2 + 5.4\sqrt{3})$ in.
C) $21.6\sqrt{2}$ in. D) $(16.2 + 5.4\sqrt{2})$ in.
16. Triangles ABC and XYZ are similar with $\angle A = \angle X$, and $\angle B = \angle Y$. If AB, BC, and AC are 8 inches, 13 inches, and 14 inches long, respectively, and XY is 12 inches long, find the length of XZ. (Answer to the nearest tenth.)
- A) 9.3 in. B) 21 in.
C) 19.5 in. D) 8.7 in.
17. Find the volume of a cube 7 inches on each side.
- A) 49 in.^3 B) 21 in.^3
C) 56 in.^3 D) 343 in.^3
18. A water tank is in the shape of a 20 ft high cone (vertex down) surmounted by a 160 ft high cylinder. If the diameter of the cylinder and the cone is 16 ft, what is the capacity of the tank in gallons? (Use $\pi = 3.14$; $1 \text{ ft}^3 = 7.5$ gallons.)
- A) 110,528 gal B) 251,200 gal
C) 80,000 gal D) 271,296 gal
19. Find the volume of a sphere 14 ft in diameter. (Use $\pi = 3.14$; answer to the nearest tenth.)
- A) 205.1 ft^3 B) 1436.0 ft^3
C) 234.5 ft^3 D) 807.8 ft^3
20. The volume of a cylindrical can is 226.08 in^3 . If the diameter is 6 inches, find the height. (Use $\pi = 3.14$.)
- A) 24 in. B) 2 in.
C) 8 in. D) 72 in.