

Pre-Algebra Mastery Test #10 Midchapter Review

Find the value of x for the figure.

- 1** Perimeter = 44



- 2** The smaller box is 2 feet tall and casts a shadow of 10 feet. The larger box is 6 feet tall. (The figures may not be drawn to scale.)



How long of a shadow does the larger box cast?

- 3** In 1996, the circulation of a local newspaper was 2030. In 1997, its circulation was 2470. Find the percent of change in the newspaper's circulation. Is this a percent of increase or decrease?

Find the intercepts of the equation's graph.

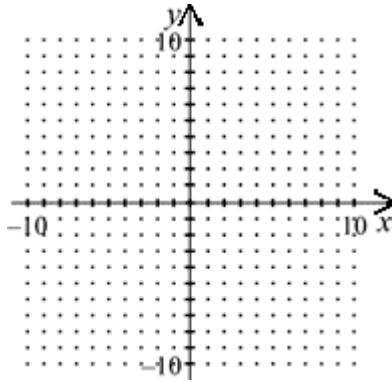
- 4** $-3x + 3y = 8$

Find the slope and y -intercept of the line with the given equation.

- 5** $8x + 4y = -96$

Graph the function.

6 $f(x) = \frac{1}{2}x - 1$



7 Write a linear function g given that $g(0) = 6$ and $g(10) = 9$.

8 What are the solutions of the equation $x^2 = 50$?

Use a calculator to solve the equation. Round to the nearest tenth when necessary.

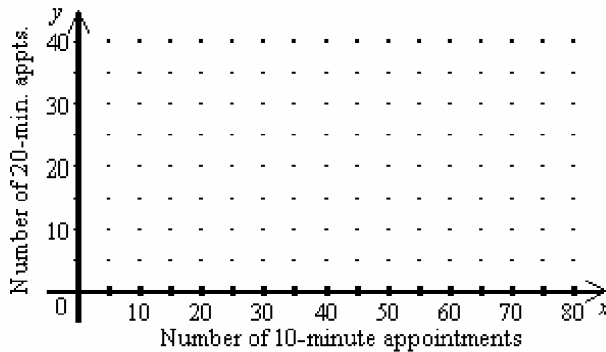
9 $4x^2 = 1200$

Find the midpoint of the segment with the given endpoints.

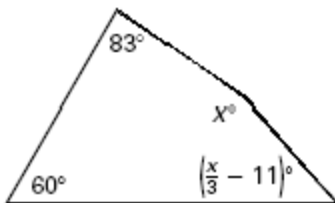
10 $(-11, 11), (6, -16)$

11 Which expression is the simplest form of $\sqrt{162x^2}$?

- 12** The lengths of the legs of a right triangle are 10 inches and 15 inches. What is the length of the hypotenuse in simplest form?
- 13** What is the distance between the points $(-3, -1)$ and $(9, -6)$?
- 14** A doctor's office schedules 10-minute and 20-minute appointments. The doctor also makes hospital rounds for four hours each weekday. These activities are limited to 30 hours per week. The inequality $10x + 20y \leq 600$ models the situation, where x represents the number of 10-minute appointments and y represents the number of 20-minute appointments. Graph the inequality.

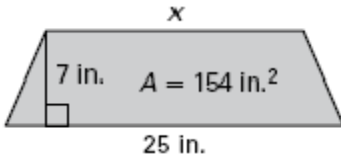


- 15** The ratio of the angle measures of a triangle is $6 : 11 : 19$. What type of triangle is it?
- 16** Find the value of x .



17 What is the area of a parallelogram with a base of 8 meters and a height of 12 meters?

18 Find the value of x .



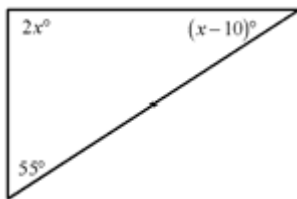
19 A circle has a radius of 21 inches. What is its approximate circumference?

20 A circle has an area of 254 square millimeters. What is its approximate radius?

21 The ratio of the side lengths of a triangular sculpture is $5:12:12$ and the perimeter is 58 feet. What are the side lengths of the sculpture? Classify the sculpture by its side lengths.

Find the value of x . Then classify the triangle by its angle measures. (The figure may not be drawn to scale.)

22



F. 55 ; acute
G. 90 ; right

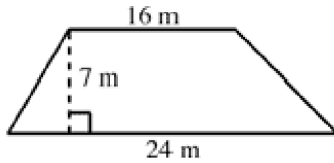
H. 145 ; obtuse
I. 45 ; right

23 Which of the following is a polygon with 5 sides?

- A. quadrilateral
B. triangle
C. pentagon
D. hexagon

Find the area of the trapezoid. (The figure may not be drawn to scale.)

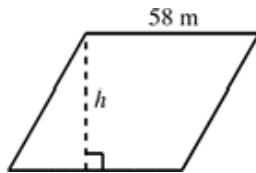
24



- F. 280 m^2
G. 200 m^2
H. 400 m^2
I. 140 m^2

25 Find the missing measure in the parallelogram.

$$A = 2552 \text{ m}^2$$



Find the radius and the diameter of the circle with the given area. Use 3.14 for π .

26 $A = 283.385 \text{ ft}^2$

- F. radius: 19 ft, diameter: 9.5 ft
G. radius: 9.5 ft, diameter: 19 ft
H. radius: 17 ft, diameter: 8.5 ft
I. radius: 8.5 ft, diameter: 17 ft

Pre-Algebra Mastery Test #10 Midchapter Review Answer Section

1 ANS:
11

TOP: Lesson 3.2 Solving Equations Having Like Terms and Parentheses

2 ANS:
30 ft

TOP: Lesson 6.5 Similarity and Measurement

3 ANS:
21.7%; increase

TOP: Lesson 7.5 Percent of Change

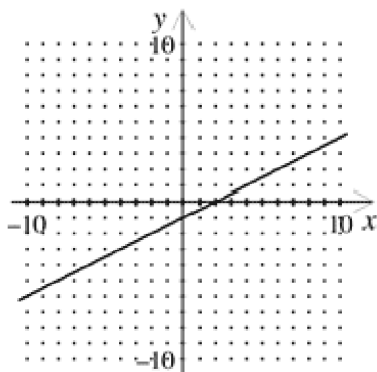
4 ANS:
x-intercept: $-\frac{8}{3}$, y-intercept: $\frac{8}{3}$

TOP: Lesson 8.3 Using Intercepts

5 ANS:
slope: -2 ; y-intercept: -24

TOP: Lesson 8.5 Slope-Intercept Form

6 ANS:



TOP: Lesson 8.7 Function Notation

7 ANS:
 $g(x) = \frac{3}{10}x + 6$

TOP: Lesson 8.7 Function Notation

8 ANS:
 $\pm 5\sqrt{2}$

TOP: Ch. 09 Standardized Test, Level A

9 ANS:
 ± 17.3

TOP: Lesson 9.1 Square Roots

10 ANS:
 $\left(-\frac{5}{2}, -\frac{5}{2}\right)$

TOP: Lesson 9.5 The Distance and Midpoint Formulas

11 ANS:
 $9x\sqrt{2}$

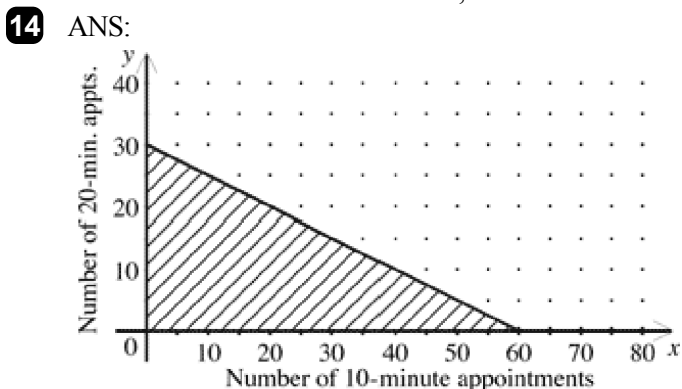
TOP: Ch. 09 Standardized Test, Level A

12 ANS:
 $5\sqrt{13}$ inches

TOP: Ch. 09 Standardized Test, Level B

13 ANS:
 13

TOP: Ch. 09 Standardized Test, Level C



TOP: Lesson 8.9 Graphs of Linear Inequalities

15 ANS:
 obtuse

TOP: Ch. 10 Standardized Test, Level B

16 ANS:
 171

TOP: Ch. 10 Standardized Test, Level B

17 ANS:
96 m²

TOP: Ch. 10 Standardized Test, Level B

18 ANS:
19 in.

TOP: Ch. 10 Standardized Test, Level B

19 ANS:
132 in.

TOP: Ch. 10 Standardized Test, Level B

20 ANS:
9 mm

TOP: Ch. 10 Standardized Test, Level B

21 ANS:
10 ft, 24 ft, 24 ft; isosceles

TOP: Lesson 10.1 Triangles

22 ANS: I TOP: Lesson 10.1 Triangles

23 ANS: C TOP: Lesson 10.2 Polygons and Quadrilaterals

24 ANS: I TOP: Lesson 10.3 Areas of Parallelograms and Trapezoids

25 ANS:
 $h = 44$ m

TOP: Lesson 10.3 Areas of Parallelograms and Trapezoids

26 ANS: G TOP: Lesson 10.4 Circumference and Area of a Circle