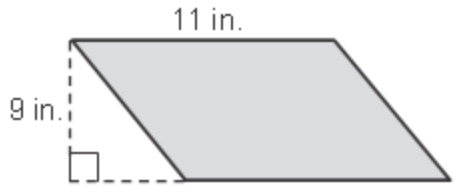
Name:_____ Class:_____ Date:_____

Chapter 9 Study Guide

Indicate the answer choice that best completes the statement or answers the question.

Find the area of the parallelogram.

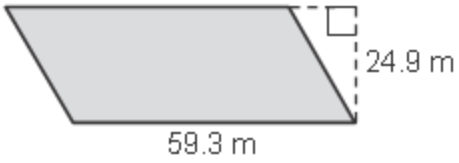
___ 1.



a. 89 in^2 b. 99 in^2

c. 109 in^2 d. 198 in^2

___ 2.



a. 1,416.13 m^2 b. 1,476.57 m^2

c. 1,483.27 m^2 d. 1,492.53 m^2

___ 3. Find the height of a parallelogram with base 9.44 meters and area 70.8 square meters.

a. 7.3 m b. 7.5 m

c. 8.2 m d. 668.35 m

___ 4. **GARDENING** Liam is preparing a 78 square foot plot for a garden. The plot will be in the shape of a parallelogram that has a height of 6 feet. What will be the length of the base of the parallelogram? Explain your reasoning.

a. 72 ft; since area = base × height, find the base by dividing: 78 – 6 = 72.

b. 13 ft; since area = base × height, find the base by dividing: 78 ÷ 6 = 13.

c. 84 ft; since area = base × height, find the base by dividing: 78 + 6 = 84.

d. 468 ft; since area = base × height, find the base by dividing: 78 × 6 = 468.

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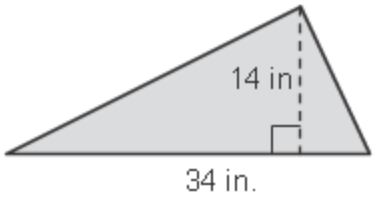
Find the area of the triangle.

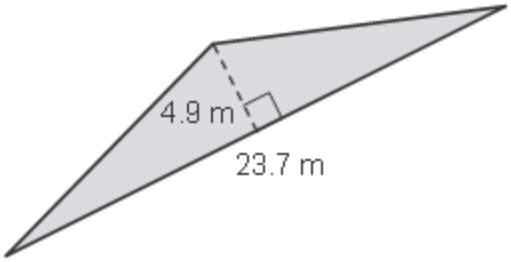
___ 5.



a. 218 in^2 b. 238 in^2

c. 328 in^2 d. 476 in^2

___ 6.



a. 58.065 m^2 b. 67.45 m^2

c. 68.045 m^2 d. 116.13 m^2

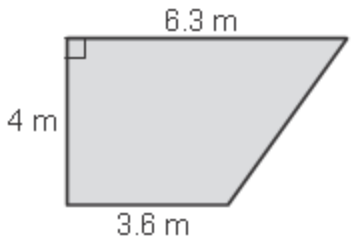
___ 7. **MURALS** Aubrey is painting a mural of an ocean scene. The triangular sail on a sailboat has a base of 4 feet and a height of 6 feet. Aubrey will paint the sail using a special white paint. A can of this paint covers 10 square feet. How many cans of white paint will Aubrey need?

a. 1 can b. 2 cans

c. 3 cans d. 4 cans

Find the area of the figure. Round to the nearest tenth if necessary.

___ 8.



a. 39.6 m^2 b. 29.3 m^2

c. 23.6 m^2 d. 19.8 m^2

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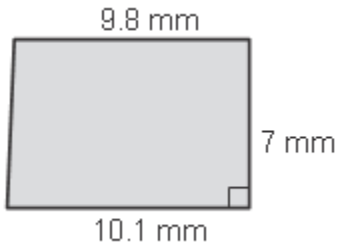
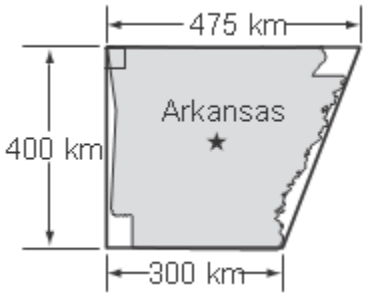
___ 9.



a. 69.7 mm^2 b. 84.7 mm^2

c. 96.8 mm^2 d. 139.4 mm^2

___ 10. **GEOGRAPHY** The shape of Arkansas is roughly trapezoidal with bases of 475 kilometers and 300 kilometers and a height of 400 kilometers. What is the approximate area of Arkansas?

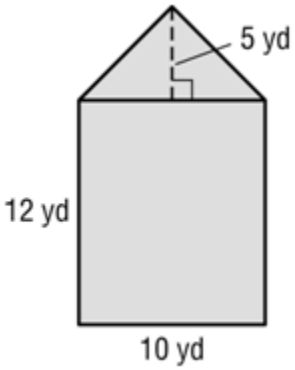


a. 310,000 km^2 b. 165,000 km^2

c. 155,000 km^2 d. 135,000 km^2

Find the area of the figure. Round to the nearest tenth if necessary.

___ 11.



a. 125 yd^2 b. 130 yd^2

c. 135 yd^2 d. 145 yd^2

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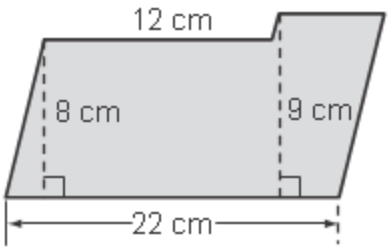
___ 12.



a. 180 cm^2 b. 186 cm^2

c. 192 cm^2 d. 198 cm^2

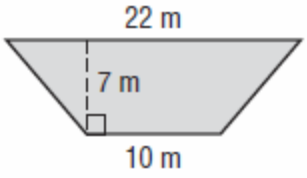
___ 13. Find the height of a parallelogram with an area of 224 square meters and a base of 16 meters.

a. 14 m b. 16 m

c. 18 m d. 20 m

Find the area of each figure.

___ 14.



a. 112 m^2 b. 114 m^2

c. 116 m^2 d. 224 m^2

___ 15. Find the height of a triangle with an area of 245 square inches and a base of 14 inches.

a. 27.5 in. b. 30 in.

c. 32.5 in. d. 35 in.

___ 16. **PARKS** Anika is hiking on a rectangular trail at the national park. There are four resting spots along the corners of the trail. On the map, they are marked with coordinates of (-2, 2), (1, 2), (1, -2), and (-2, -2). If each unit represents 1 mile, find the perimeter of the trail in miles, using the coordinates.

a. 10 mi b. 12 mi

c. 14 mi d. 16 mi

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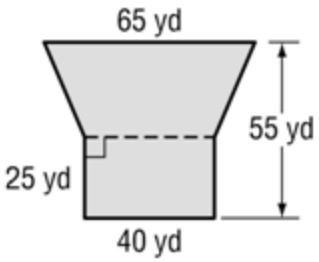
AUDITORIUM The diagram below gives the dimensions of an auditorium.



___ 17. If new carpet is needed for the auditorium, what will be the area of the carpet? Round to the nearest square yard.

a. 2,265 yd^2 b. 2,375 yd^2

c. 2,425 yd^2 d. 2,575 yd^2

Refer to the figures. Justify your answer.

Figure A

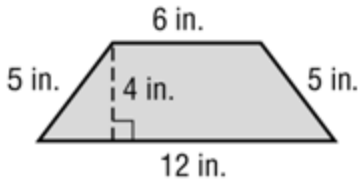
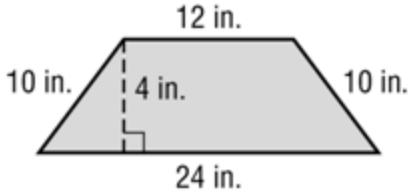


Figure B



___ 18. Describe the change in the area from Figure A to Figure B.

a. The area is multiplied by 2. The area of the original figure is 72 in^2 and the area of the new figure is 144 in^2;
144 in^2 ÷ 72 in^2 = 2.

b. The area is multiplied by 2. The area of the original figure is 36 in^2 and the area of the new figure is 72 in^2;
72 in^2 ÷ 36 in^2 = 2.

c. The area is multiplied by 3. The area of the original figure is 36 in^2 and the area of the new figure is 108 in^2;
108 in^2 ÷ 36 in^2 = 3.

d. The area is multiplied by 4. The area of the original figure is 36 in^2 and the area of the new figure is 144 in^2;
144 in^2 ÷ 36 in^2 = 4.

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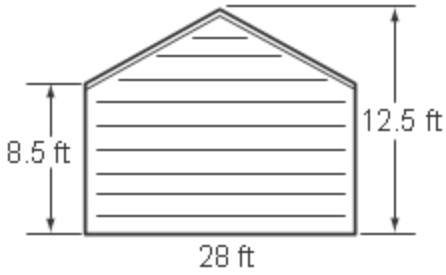
SIDING Use the diagram that shows one end of a cottage.



___ 19. Each end of the cottage needs new siding. Find the total area that needs new siding.

a. 588 ft^2 b. 468 ft^2

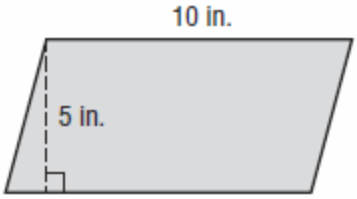
c. 376 ft^2 d. 294 ft^2

___ 20. A rectangle has vertices $A(1, 2)$, $B(1, 7)$, $C(4, 7)$, and $D(4, 2)$. What is the perimeter of the rectangle?

a. 3 units b. 5 units

c. 15 units d. 16 units

___ 21. An artist is using tiles in the shape of a parallelogram to make a mosaic. The tiles have the dimensions shown. What is the area of one tile?



a. 2 in^2 b. 15 in^2

c. 25 in^2 d. 50 in^2

___ 22. A farmer is installing a new fence. The coordinates of the vertices of the fence are $A(1, 1)$, $B(1, 9)$, $C(7, 9)$, and $D(7, 1)$. If each grid square has a length of 5 yards, how much wire is needed for the fence?

a. 28 yards b. 48 yards

c. 140 yards d. 240 yards

Enter the appropriate value to answer the question or solve the problem.

23. A wheat cracker is shaped like a triangle with a base of 50 millimeters and a height of 5.7 centimeters. What is the area of the cracker in square centimeters? Round to the nearest tenth.

_____ cm^2

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24. A parallelogram has an area of 120 square units. Its perimeter is between 40 and 50 units. List two possible dimensions for the parallelogram.

_____

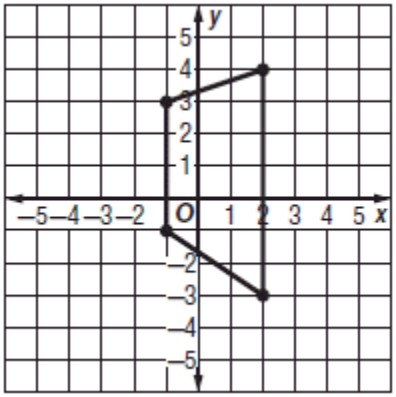
_____

Indicate the answer choice that best completes the statement or answers the question.

Choose the graph that represents the figure and classify it. Then find the area.

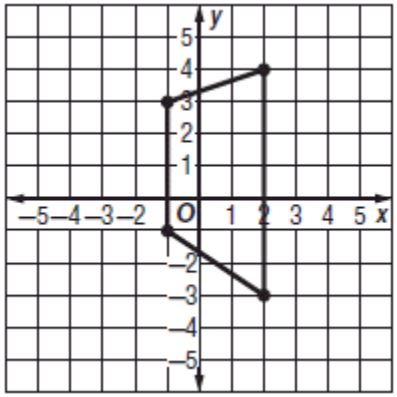
___ 25. *D*(-1, -1), *E*(-1, 3), *F*(2, 4), *G*(2, -3)

a.



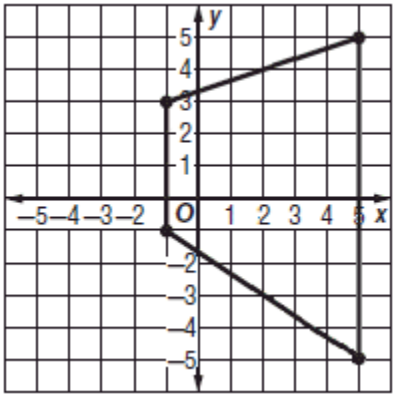
trapezoid; area = 16.5 square units

b.



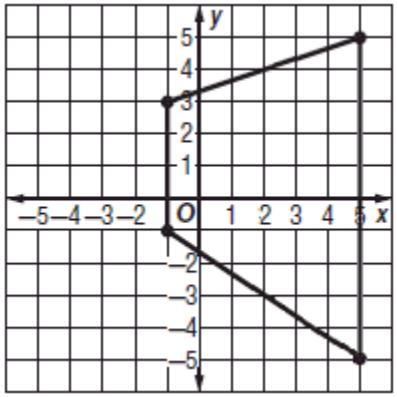
trapezoid; area = 18.5 square units

c.



trapezoid; area = 42 square units

d.



trapezoid; area = 84 square units

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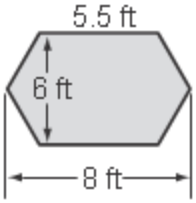
Find the area of the figure. Round to the nearest tenth if necessary.

___ 26.



a. 40.5 ft^2 b. 45.5 ft^2

c. 50.5 ft^2 d. 81 ft^2

___ 27. **SANDBOX** A sandbox at a playground is 3 yards long by 2 yards wide. What is the area of the sandbox?

a. 3 yd^2 b. 5 yd^2

c. 6 yd^2 d. 9 yd^2

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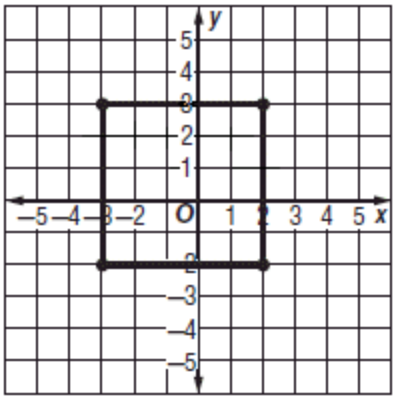
Choose the graph that represents the rectangle with the given vertices. Then find the perimeter of the rectangle.

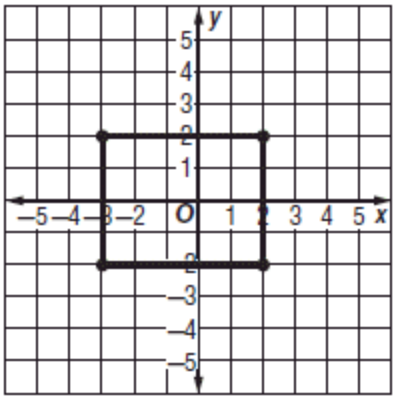
___ 28. $L(-3, -2)$, $M(-3, 2)$, $N(2,2)$, $O(2, -2)$

a.



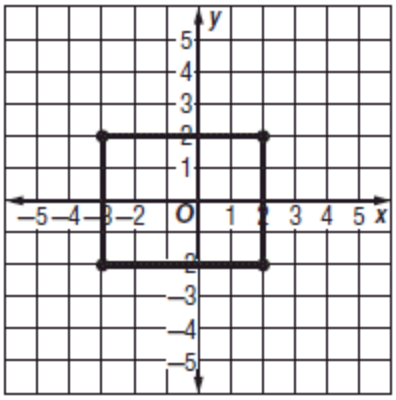
perimeter = 20 units

b.



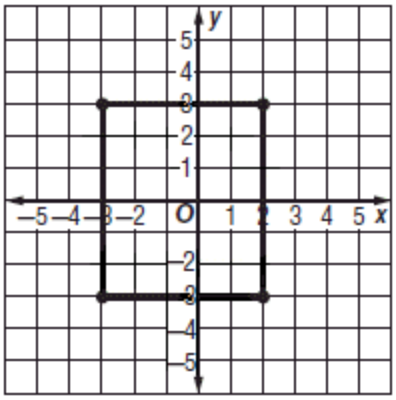
perimeter = 18 units

c.



perimeter = 22 units

d.



perimeter = 22 units

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Answer Key

1. b

2. b

3. b

4. b

5. b

6. a

7. b

8. d

9. a

10. c

11. d

12. b

13. a

14. a

15. d

16. c

17. d

18. d

19. a

20. d

21. d

22. c

23. 14.3

24. Sample answers: $b = 15$ units, $h = 8$ units; $b = 12$ units, $h = 10$ units

25. a

26. a

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27. c

28. b