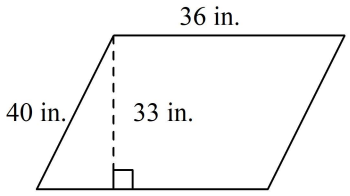
Name: _____ Class: _____ Date: __03/26/2023_____ ID: A

Chapter 10- Mid-chapter Worksheet

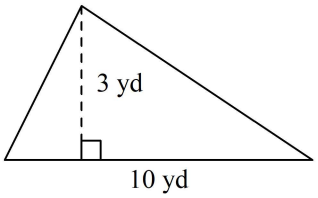
Find the area. The figure is not drawn to scale.

1.



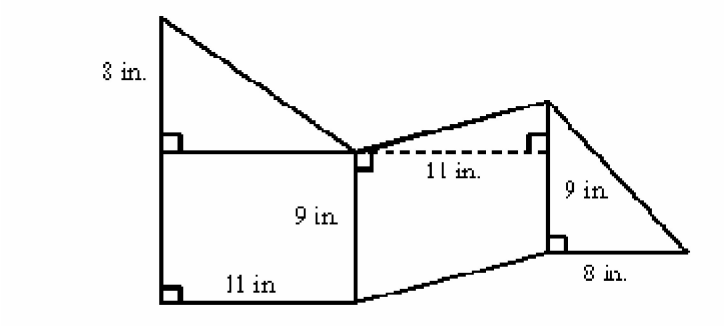
A. 1188 in.^{2} B. 69 in.^{2} C. 138 in.^{2} D. 1440 in.^{2}

2.



A. 30 yd^2 B. 6.5 yd^2 C. 13 yd^2 D. 15 yd^2

3.



A. 188 in.^{2} B. 278 in.^{2} C. 322 in.^{2} D. none of these

4. The area of a parallelogram is 280 cm^2 and the height is 35 cm. Find the corresponding base.
A. 315 cm B. 245 cm C. 9,800 cm^2 D. 8 cm

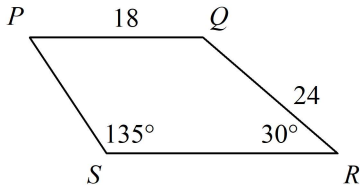
Find the area of a parallelogram with the given vertices.

5. $P(1, 3)$, $Q(3, 3)$, $R(7, 8)$, $S(9, 8)$
A. 10 units^2 B. 5 units^2 C. 20 units^2 D. none of these

6. Find the area of a polygon with the vertices of (–4, 5), (–1, 5), (4, –3), and (–4, –3).
A. 176 units^2 B. 7 units^2 C. 44 units^2 D. 88 units^2

7. An isosceles triangle has area of 125 ft^2. If the base is 16 ft, what is the length of each leg? Round your answer to the nearest tenth.
A. 22.4 ft B. 17.6 ft C. 15.8 ft D. 500.1 ft

8. In trapezoid *PQRS*, $\overline{PQ} \parallel \overline{SR}$. Find the area of *PQRS*. Leave your answer in simplest radical form.

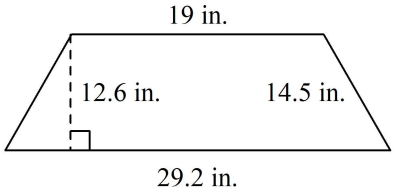


Not drawn to scale

A. $144 + 72\sqrt{3}$ units^2
B. $72 + 72\sqrt{3}$ units^2
C. $288\sqrt{3} - 216$ units^2
D. $144\sqrt{3} - 72$ units^2

Find the area of the trapezoid. Leave your answer in simplest radical form.

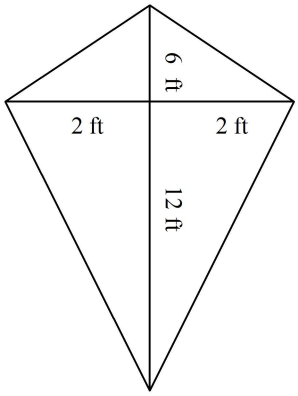
9.



Not drawn to scale

A. 607.32 in.^{2}
B. 36.7 in.^{2}
C. 303.66 in.^{2}
D. 77.2 in.^{2}

10. What is the area of the kite?



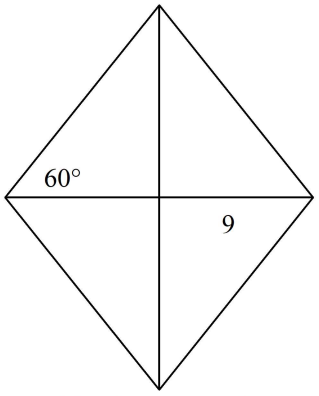
Not drawn to scale

A. 11 ft^2
B. 72 ft^2
C. 36 ft^2
D. 44 ft^2

11. A kite has diagonals 5.8 ft and 6 ft. What is the area of the kite?

A. 5.9 ft^2
B. 23.6 ft^2
C. 34.8 ft^2
D. 17.4 ft^2

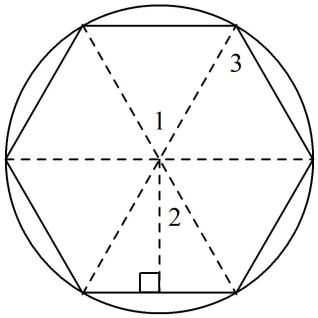
12. Find the area of the rhombus. Leave your answer in simplest radical form.



Not drawn to scale

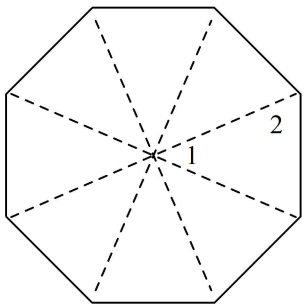
A. $18\sqrt{3}$ units^2 B. $81\sqrt{6}$ units^2 C. $162\sqrt{3}$ units^2 D. 162 units^2

13. Given the regular hexagon, find the measure of each numbered angle.



A. $m\angle 1 = 30, m\angle 2 = 60, m\angle 3 = 30$ C. $m\angle 1 = 60, m\angle 2 = 30, m\angle 3 = 60$
B. $m\angle 1 = m\angle 2 = m\angle 3 = 60$ D. $m\angle 1 = 60, m\angle 2 = 30, m\angle 3 = 30$

14. Given the regular polygon, find the measure of each numbered angle.



A. $m\angle 1 = 45, m\angle 2 = 135$ C. $m\angle 1 = m\angle 2 = 60$
B. $m\angle 1 = 45, m\angle 2 = 67.5$ D. $m\angle 1 = 22.5, m\angle 2 = 78.75$

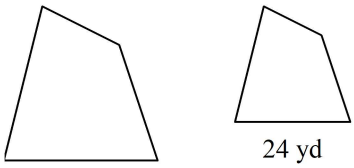
15. Find the area of a regular hexagon with side length of 10 m. Round your answer to the nearest tenth.
A. 450 m^2 B. 129.9 m^2 C. 86.6 m^2 D. 259.8 m^2

16. Find the area of an equilateral triangle with radius $2\sqrt{3}$ m. Leave your answer in simplest radical form.
A. $3\sqrt{3}$ m^2 B. $9\sqrt{3}$ m^2 C. $\frac{9}{2}\sqrt{3}$ m^2 D. $6\sqrt{3}$ m^2

17. A regular hexagon has a perimeter of 120 m. Find its area. Leave your answer in simplest radical form.
A. $1800\sqrt{3}$ m^2 B. $5\sqrt{3}$ m^2 C. $600\sqrt{3}$ m^2 D. $3600\sqrt{3}$ m^2

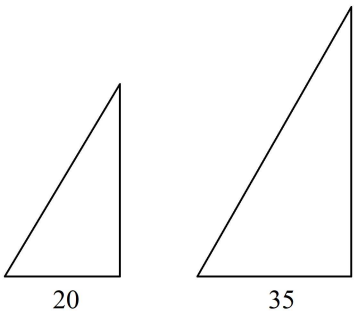
The figures are similar. Give the ratio of the perimeters and the ratio of the areas of the first figure to the second. The figures are not drawn to scale.

18.



A. $\frac{10}{9}$ and $\frac{81}{64}$ B. $\frac{9}{8}$ and $\frac{11}{10}$ C. $\frac{9}{8}$ and $\frac{81}{64}$ D. $\frac{10}{9}$ and $\frac{11}{10}$

19.



A. 4 : 7 and 16 : 49
B. 5 : 8 and 16 : 49
C. 4 : 7 and 25 : 64
D. 5 : 8 and 25 : 64

20. The area of a regular octagon is 35 cm^2. What is the area of a regular octagon with sides five times as long?

A. 625 cm^2 B. 875 cm^2 C. 175 cm^2 D. 245 cm^2

21. A rectangular napkin costs $3.25. A similar tablecloth is five times longer and five times wider. How much would you expect to pay for the tablecloth?

A. $81.25 B. $48.75 C. $16.25 D. $32.50

22. Find the similarity ratio and the ratio of perimeters for two regular pentagons with areas of 16 cm^2 and 49 cm^2.

A. 4 : 7; 4 : 7 B. 16 : 49; 4 : 7 C. 16 : 49; 16 : 49 D. 4 : 7; 16 : 49

23. Two trapezoids have areas of 432 cm^2 and 48 cm^2. Find their ratio of similarity.

A. 3 : 1 B. 9 : 1 C. 1 : 3 D. 1 : 9

24. Find the similarity ratio and the ratio of perimeters for two regular octagons with areas of 18 $in.^2$ and 50 $in.^2$

A. 3 : 5; 3: 5 B. 9 : 25; 3 : 5 C. 3 : 5; 9 : 25 D. 9 : 25; 9 : 25

Find the area of the regular polygon. Give the answer to the nearest tenth.

25. dodecagon with a perimeter of 108 cm

A. 1813.8 cm^2 B. 906.9 cm^2 C. 923.6 cm^2 D. 938.9 cm^2

26. pentagon with a side of 6 ft

A. 49.5 ft^2 B. 61.9 ft^2 C. 123.9 ft^2 D. 12.4 ft^2

27. square with a radius of 13 ft

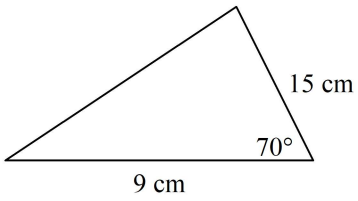
A. 676 ft^2 B. 169 ft^2 C. 338 ft^2 D. 343 ft^2

28. A park in a subdivision is triangular-shaped. Two adjacent sides of the park are 581 feet and 540 feet. The angle between the sides is 83°. To the nearest unit, find the area of the park in square yards.

A. 51,900 yd^2 B. 34,600 yd^2 C. 17,300 yd^2 D. 38,925 yd^2

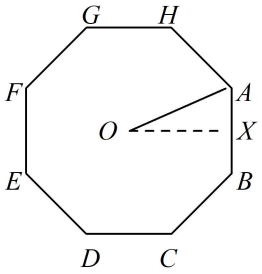
Find the area of the triangle. Give the answer to the nearest tenth. The drawing may not be to scale.

29.



A. 126.9 cm^2 B. 63.4 cm^2 C. 23.1 cm^2 D. 185.5 cm^2

30. The regular polygon has a radius of 9 m. Find each angle measure to the nearest tenth of a degree, each linear measure to the nearest tenth of a meter, and the square measure to the nearest square meter.



a. $m\angle AOX$
b. $m\angle AOB$
c. OX
d. AB
e. the perimeter
f. the area

Chapter 10- Mid-chapter Worksheet
Answer Section

1. ANS: A PTS: 1 OBJ: 10-1.1 To find the area of parallelograms and triangles
2. ANS: D PTS: 1 OBJ: 10-1.1 To find the area of parallelograms and triangles
3. ANS: B PTS: 1 OBJ: 10-1.1 To find the area of parallelograms and triangles
4. ANS: D PTS: 1 OBJ: 10-1.1 To find the area of parallelograms and triangles
5. ANS: A PTS: 1 OBJ: 10-1.1 To find the area of parallelograms and triangles
6. ANS: C PTS: 1 OBJ: 10-1.1 To find the area of parallelograms and triangles
7. ANS: B PTS: 1 OBJ: 10-1.1 To find the area of parallelograms and triangles
8. ANS: A PTS: 1 OBJ: 10-2.1 To find the area of a trapezoid, rhombus, or kite
9. ANS: C PTS: 1 OBJ: 10-2.1 To find the area of a trapezoid, rhombus, or kite
10. ANS: C PTS: 1 OBJ: 10-2.1 To find the area of a trapezoid, rhombus, or kite
11. ANS: D PTS: 1 OBJ: 10-2.1 To find the area of a trapezoid, rhombus, or kite
12. ANS: C PTS: 1 OBJ: 10-2.1 To find the area of a trapezoid, rhombus, or kite
13. ANS: C PTS: 1 OBJ: 10-3.1 To find the area of a regular polygon
14. ANS: B PTS: 1 OBJ: 10-3.1 To find the area of a regular polygon
15. ANS: D PTS: 1 OBJ: 10-3.1 To find the area of a regular polygon
16. ANS: B PTS: 1 OBJ: 10-3.1 To find the area of a regular polygon
17. ANS: C PTS: 1 OBJ: 10-3.1 To find the area of a regular polygon
18. ANS: C PTS: 1 OBJ: 10-4.1 To find the perimeters and areas of similar polygons
19. ANS: A PTS: 1 OBJ: 10-4.1 To find the perimeters and areas of similar polygons
20. ANS: B PTS: 1 OBJ: 10-4.1 To find the perimeters and areas of similar polygons
21. ANS: A PTS: 1 OBJ: 10-4.1 To find the perimeters and areas of similar polygons
22. ANS: A PTS: 1 OBJ: 10-4.1 To find the perimeters and areas of similar polygons
23. ANS: A PTS: 1 OBJ: 10-4.1 To find the perimeters and areas of similar polygons
24. ANS: A PTS: 1 OBJ: 10-4.1 To find the perimeters and areas of similar polygons
25. ANS: B PTS: 1
    OBJ: 10-5.1 To find areas of regular polygons and triangles using trigonometry
26. ANS: B PTS: 1
    OBJ: 10-5.1 To find areas of regular polygons and triangles using trigonometry
27. ANS: C PTS: 1
    OBJ: 10-5.1 To find areas of regular polygons and triangles using trigonometry
28. ANS: C PTS: 1
    OBJ: 10-5.1 To find areas of regular polygons and triangles using trigonometry
29. ANS: B PTS: 1
    OBJ: 10-5.1 To find areas of regular polygons and triangles using trigonometry
30. ANS:
    a. 22.5°
    b. 45°
    c. 8.3 m
    d. 6.9 m
    e. 55.2 m
    f. 229 m^2

    PTS: 1 OBJ: 10-5.1 To find areas of regular polygons and triangles using trigonometry