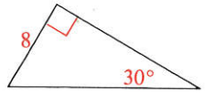
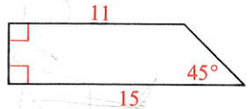
Chapter Review

1. The perimeter of a square is 32. Find the area. 9-1
2. Find the area of a rectangle with length 4 and diagonal 6.
3. Find the area of a square with side $3\sqrt{2}$ cm.
4. Find the area of a rhombus with side 17 and longer diagonal 30. 9-2
5. A parallelogram has sides 8 and 12. The shorter altitude is 6. Find the length of the other altitude.
6. Find the perimeter and the area of the triangle shown.



7. Find the height of a trapezoid with median 12 and area 84. 9-3
8. Find the area of an isosceles trapezoid with legs 5 and bases 4 and 12.
9. Find the perimeter and the area of the figure shown.

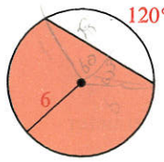


Find the area of each regular polygon.

10. A square with apothem 3 m 9-4
11. An equilateral triangle with radius $2\sqrt{3}$
12. A regular hexagon with perimeter 12 cm
13. Find the circumference and area of a circle with radius 30. Use $\pi \approx 3.14$. 9-5
14. The area of a circle is 121π cm^2. Find the diameter.
15. A square with side 8 is inscribed in a circle. Find the circumference of the circle.
16. Find the length of a 135° arc in a circle with radius 24. 9-6

Find the area of each shaded region.

17.



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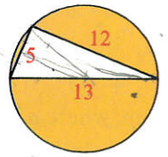
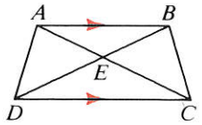


19. If $AB = 9$ and $CD = 12$, find the ratio of the areas of: 9-7
    a. $\triangle AEB$ and $\triangle DEC$
    b. $\triangle AED$ and $\triangle DEC$



20. Two regular octagons have perimeters 16 cm and 32 cm, respectively. What is the ratio of their areas?
21. Two similar polygons have the scale factor 7:5. The area of the large polygon is 147. Find the area of the smaller polygon.

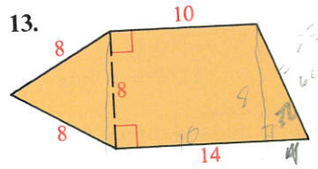
Chapter Test

Find the area of each figure described.

1. A circle with diameter 10
2. A square with diagonal 4 cm
3. An isosceles right triangle with hypotenuse $6\sqrt{2}$
4. A circle with circumference 30π m
5. A rhombus with diagonals 5 and 4
6. An isosceles trapezoid with legs 10 and bases 6 and 22
7. A parallelogram with sides 6 and 10 that form a 30° angle
8. A regular hexagon with apothem $2\sqrt{3}$ cm
9. Sector AOB of $\odot O$ with radius 4 and $m\overset{\frown}{AB} = 45$
10. A rectangle with length 12 inscribed in a circle with radius 7.5
11. A sector of a circle with radius 12 and arc length 10π
12. A square with radius 9

Find the area of each shaded region.

13.



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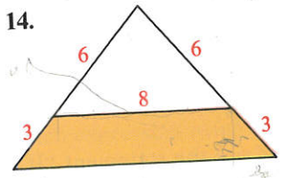

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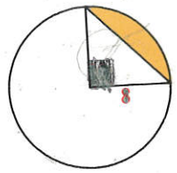

16. The areas of two circles are 100π and 36π. Find the ratio of their radii and the ratio of their circumferences.
17. Two regular pentagons have sides of 14 m and 3.5 m, respectively. Find their scale factor and the ratio of their areas.
18. In $\odot Q$, $m\overset{\frown}{ABC} = 288$ and $QA = 10$. Find the length of $\overset{\frown}{AC}$.