Areas of Plane Figures

Find the area of each figure described.

1. A rectangle with length 15 and width 12 __180__

2. A parallelogram with base 18 and height 9 __162__

3. A triangle with base 13 and height 8 __52__

4. A rhombus with shorter diagonal 6 cm and a
120° angle __$18\sqrt{3}$ cm²__

5. A square whose perimeter is 60 __225__

6. A regular hexagon with side 12° __$216\sqrt{3}$__

7. A regular pentagon with side s and apothem 3 __$\frac{15s}{2}$__

8. A rhombus with diagonals 6 and 14 __42__

9. An isosceles trapezoid with legs 13 and bases 12 and 22
__204__

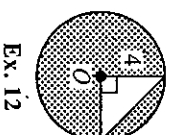10. Find the circumference and area of a circle with radius 10.
Use π ≈ 3.14.
C = __62.8__ , A = __314__

11. The area of a circle is 144π. Find the circumference. __24π__

12. Find the area of the shaded region of ⊙O. __$16\pi - 8$__

13. In circle P with diameter 10, $m\angle APB = 60$. Find the length of
$\overset{\frown}{AB}$ and the area of sector APB.
length of $\overset{\frown}{AB}$ = __$\frac{5\pi}{3}$__ , A = __$\frac{25\pi}{6}$__

14. The ratio of the areas of two rectangles is 36 : 64. Find the scale
factor and the ratio of the perimeters.
scale factor = __3:4__ , ratio of the perimeters = __3:4__

15. Two similar polygons have scale factor 3 : 4. The area of the
smaller polygon is 108. Find the area of the larger polygon.
__192__

16. If △ABC ~ △ADE, find the probability that a point selected
at random from △ABC will lie inside quadrilateral BDEC.
__$\frac{8}{9}$__

Ex. 12