Name **Answers**   Date

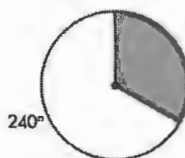# 12.65 - Areas of Parts of a Circle

Find the shaded area. The radius of each circle is r. If two circles are shown, r is the radius of the smaller circle and R is the radius of the larger one. All given measurements are in centimeters.
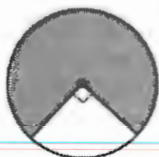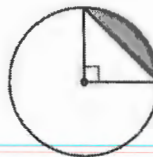
1) $r = 6$

60°

$6\pi \ cm^2$

2) $r = 8$

240°

$\dfrac{64}{3}\pi \ cm^2$

3) $r = 16$

$192\pi \ cm^2$
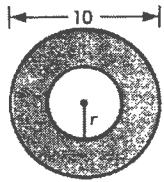
4) $r = 2$

$(\pi - 2) \ cm^2$

5) $r = 8$

$48\pi + 32 \ cm^2$

6) $R = 7$
        $r = 4$
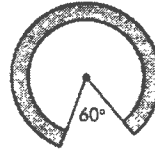
$32\pi \ cm^2$

7) $r = 2$

$21\pi \ cm^2$
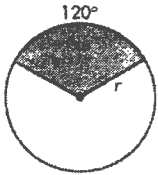
8) $R = 12$
    $r = 9$

$\dfrac{105}{2}\pi \ cm^2$
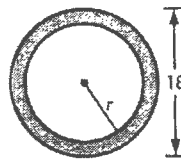
For the following, find the measurement of the radius.
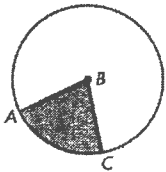
9) The shaded area
    is $12\pi \ cm^2$.

$r = 6 \ cm$

10) The area of the
    annulus is $32\pi \ cm^2$.

$r = 7 cm$

Find the $m\angle ABC$.

11) The shaded area
    is $120\pi \ cm^2$.
    $r = 24 \ cm$

$m\angle ABC = 75°$