1. What is the equation of a line parallel to 9x + 3y = 15 and goes through the point (-5, 6)?

$3y = -9x + 15$

$y = -3x + 5$

$y = -3x + b$

$6 = -3(-5) + b$

$6 = 15 + b$ $\quad b = -9$

2. What is the equation of a line perpendicular to 9x + 3y = 15 and goes through the point (-5, 6)?

$y = \frac{1}{3}x + b$

$6 = \frac{1}{3}(-5) + b$

$6 = \frac{-5}{3} + b$

$\frac{18}{3} + \frac{5}{3} = b$

$\frac{23}{3} = b$

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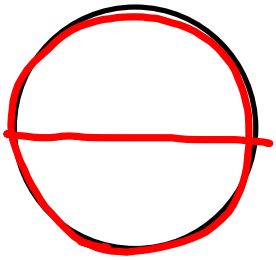
Circumference -

- outside edge of the circle



Diameter
chord going thru center of circle

Circumference	Diameter	Ratio C/D

Circumference Conjecture:

$C = D\pi$ $\quad$ $C = 2\pi r$

$\frac{C}{\pi} = D$ $\quad$ $\frac{C}{2\pi} = r$

$\frac{C}{D} = \pi$

In Exercises 1–4, leave your answers in terms of π. — exact answer

1. If $r = 10.5$ cm, find C.

$C = 2\pi r$
$= 2(10.5)\pi$
21π cm

2. If $C = 25\pi$ cm, find r.

$C = 2\pi r$
$25\pi = 2\pi r$
$r = 12.5$ cm

3. What is the circumference of a circle whose radius is 30 cm?

$C = 2\pi r$
$C = 2\pi(30)$
$C = 60\pi$ cm

4. What is the diameter of a circle whose circumference is 24π cm?

$\frac{C}{\pi} = D$
$\frac{24\pi}{\pi} = D$
$D = 24$ cm

In Exercises 5–9, round your answer to the nearest 0.1 unit. Use the symbol ≈ to show that your answer is an approximation.

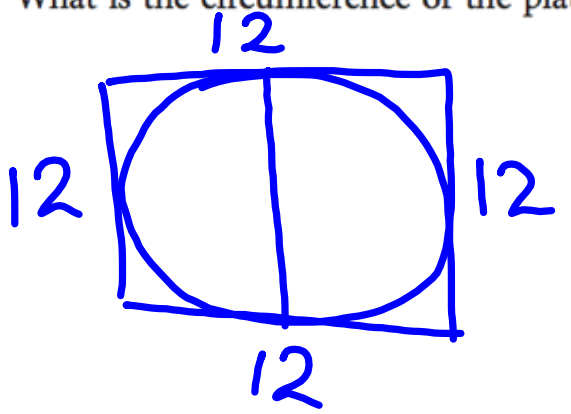
5. If $d = 9.6$ cm, find C.

$C = \pi d$
$= 9.6\pi \approx 30.2$ cm

6. If $C = 132$ cm, find d and r.

$C = \pi d$
$\frac{C}{\pi} = d$
$\frac{132}{\pi} = d$
$d \approx 42$ cm
$r \approx 21$ cm

7. A dinner plate fits snugly in a square box with perimeter 48 inches. What is the circumference of the plate?



$C = \pi d$
$= 12\pi$ inches

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