# Circles - Area and Circumference

Name: KEY

**1.** $r = 1.5 \quad d = 3$

3 in.
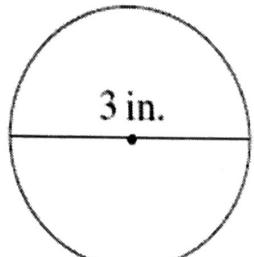
A = 7.07 in²
C = 9.42 in.

2. $r = 2 \quad d = 4$

2 m

A = 12.56 m²
C = 12.56 m

3. $r = 15$
$d = 30$

15 in.
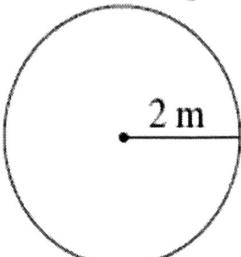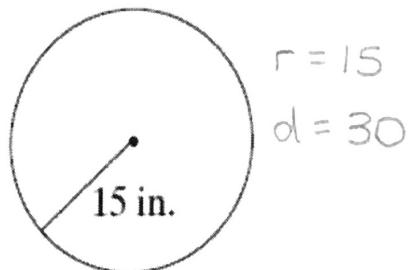
A = 706.5 in²
C = 94.2 in

4. $r = 4$

8cm

$\dfrac{50.24}{2}$

A = 25.12 cm²

5. $r = 5$

5 cm
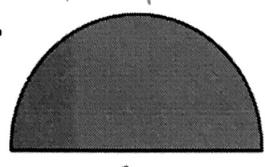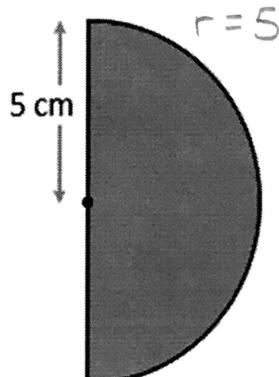
$\dfrac{78.5}{2}$

A = 39.25 cm²

6.
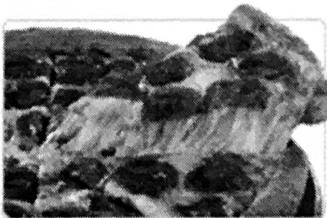
Sausage Pizza ⓘ	Pepperoni ⓘ	Sausage/Pepperoni ⓘ
1 ▲▼ Lg Orig $13.50 ▾	1 ▲▼ Med Orig $11.25 ▾	1 ▲▼ Sm Orig $10.00 ▾
20 in 10 = r	16 in 8 = r	12 in 6 = r
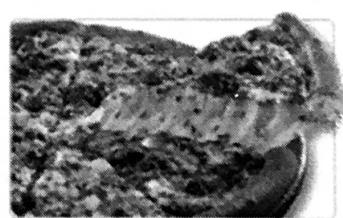
Which pizza is the better buy per square inch?

*Hint: Find the area of each, then find price per square inch.

Large: A = 314 in² $/in² = $0.04 $13.50/314 in²

Medium: A = 200.96 in² $/in² = $0.06 $11.25/200.96 in²

Small: A = 113.04 in² $/in² = $0.09 $10/113.04 in²

Use algebra to find the missing circle attributes. Round to the nearest tenth if necessary.

1. Given the circumference of a circle is 56.52 in, calculate the following:

$$56.52 = 3.14d$$

a. The radius ___9___

b. The diameter ___18___

c. The area ___254.34 in²___

$$\uparrow \pi \cdot 9^2 = A$$

2. Given the circumference of a circle is 5.652 mm, calculate the following:

$$5.652 = 3.14d$$

a. The radius ___0.9___

b. The diameter ___1.8___

c. The area ___2.54 m²___

$$\uparrow \pi \cdot 0.9^2 = A$$

3. Given the circumference of a circle is 153.86 cm, calculate the following:

$$153.86 = 3.14d$$

a. The radius ___24.5___

b. The diameter ___49___

c. The area ___1884.79 cm²___

$$\uparrow \pi \cdot 24.5^2 = A$$

4. Find the area and circumference of a **semicircle** with a radius of 6 cm:

a. Area ___56.52___ cm² $$\dfrac{\pi \cdot 6^2 = 113.04}{2}$$

b. Circumference ___18.84 cm___ or ___30.84 cm___

$$\nearrow$$
if including diameter of 12 cm

5. A rectangle has an **area** of 140 square inches and a length of 10 inches. $140 = 10w$ Calculate the following:

Width ___14 in___

Perimeter ___48 in.___

$$10 + 14 + 10 + 14 \overset{5}{}$$

6. A rectangle has a **perimeter** of 60 inches and a length of 14 inches. Calculate the following:

Width ___16 in.___

$$60 = 2(14) + 2w$$
$$60 = 28 + 2w$$
$$32 = 2w$$

Area ___224 in²___

$$14 \cdot 16 \overset{5}{}$$

7. A square has an **area** of 144 square inches. Calculate the following:

$$\sqrt{144}$$

Side Length ___12 in.___

Perimeter ___48 in.___

$$12 \cdot 4 \nearrow$$

8. A triangle has an **area** of 45 square inches. The base is 6 inches long. Calculate the following:

$$45 = \tfrac{1}{2} \cdot 6 \cdot h$$
$$45 = 3 \cdot h$$

Height ___15 in___