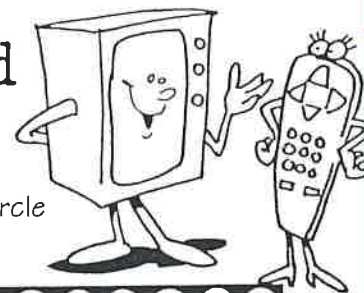
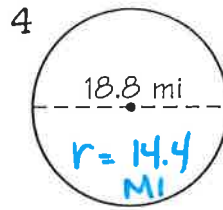
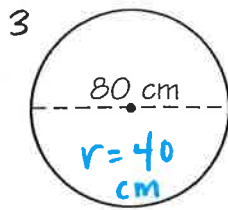
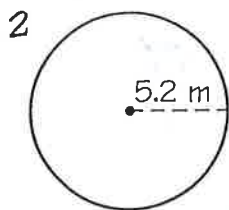
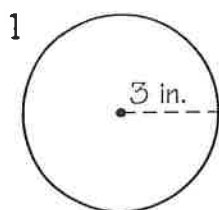


# What Happened When the TV Set Asked the Remote Control for a Date?



Find each answer in the answer column. Write the letter of the answer in the circle that contains the exercise number. Most answers are rounded. Use 3.14 for  $\pi$ .

Use the diameter ( $d$ ) or radius ( $r$ ) to find the area.



5  $r = 12$  in.

6  $r = 0.66$  mi

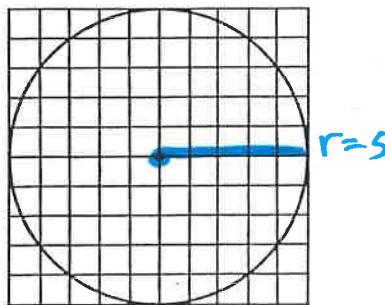
7  $d = 7.5$  m.  
 $r = 3.75$  m

8  $d = 2$  cm  
 $r = 1$  cm

Solve.

9 Radio station KLUV broadcasts in all directions to a distance of 60 mi. What is the area over which the station can be heard?

10 How many squares are inside the circle below?



11 A fugitive has escaped in a train wreck. The police believe he could not have traveled more than 7 mi in any direction from the wreck. How many square miles must be searched?

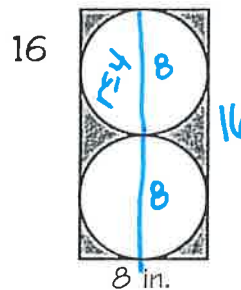
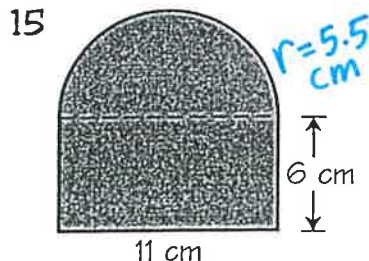
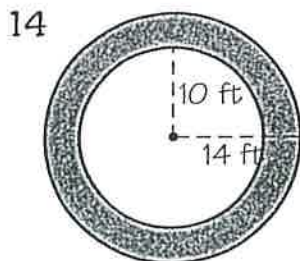
12 A manhole cover has a diameter of 3 ft. It weighs 8.2 lb per square foot. How much does the manhole cover weigh?

$r = 1.5$  ft

13 A 12-inch diameter pizza is cut into 8 equal pieces. What is the area of each piece?

$r = 6$  in

Find the area of the shaded region.



Answers 1-8

- L 269.4 mi<sup>2</sup>
- ✓ O 5024 cm<sup>2</sup>
- ✓ S 44.2 m<sup>2</sup>
- ✓ D 28.3 in.<sup>2</sup>
- F 1.54 mi<sup>2</sup>
- ✓ M 452.2 in.<sup>2</sup>
- T 5196 cm<sup>2</sup>
- ✓ E 84.9 m<sup>2</sup>
- ✓ H 3.14 cm<sup>2</sup>
- A 48.3 m<sup>2</sup>
- ✓ U 1.37 mi<sup>2</sup>
- Y 438.3 in.<sup>2</sup>
- ✓ N 277.5 mi<sup>2</sup>

Answers 9-16

- S 124.3 cm<sup>2</sup>
- ✓ H 153.9 mi<sup>2</sup>
- A 62.4 lb
- ✓ T 301.4 ft<sup>2</sup>
- F 18.9 in.<sup>2</sup>
- ✓ E 78.5
- ✓ I 57.9 lb
- ✓ D 113.5 cm<sup>2</sup>
- L 82.4
- ✓ W 11,304 mi<sup>2</sup>
- ✓ R 27.5 in.<sup>2</sup>
- B 326.4 ft<sup>2</sup>
- ✓ N 14.1 in.<sup>2</sup>
- O 9285 mi<sup>2</sup>

S H E T U R N E D H I M D O W N

## 12.5 Area of Circles

Find the diameter of each circle. Use your calculator's value of  $\pi$ . Round your answer to the nearest tenth.

1) area = 283.5 km<sup>2</sup>

$$A = \pi r^2$$

$$283.5 = (3.14) r^2$$

$$90.3 \approx r^2$$

$$9.5 \text{ km} \approx r$$

$$\boxed{19 \text{ km} \approx d}$$

2) area = 55.4 km<sup>2</sup>

$$A = \pi r^2$$

$$55.4 = (3.14) r^2$$

$$17.6 \approx r^2$$

$$4.2 \approx r$$

$$\boxed{8.4 \text{ km} \approx d}$$

3) area = 201.1 km<sup>2</sup>

$$A = \pi r^2$$

$$201.1 = (3.14) r^2$$

$$64 \approx r^2$$

$$8 \approx r$$

$$\boxed{16 \text{ km} \approx d}$$

4) area = 52.8 mi<sup>2</sup>

$$A = \pi r^2$$

$$52.8 = (3.14) r^2$$

$$16.8 \approx r^2$$

$$4.1 \approx r$$

$$\boxed{8.2 \text{ mi} \approx d}$$

Find the circumference of each circle. Use your calculator's value of  $\pi$ . Round your answer to the nearest tenth.

5) area = 153.9 cm<sup>2</sup>

$$A = \pi r^2$$

$$153.9 = (3.14) r^2$$

$$49 \approx r^2$$

$$7 \approx r$$

$$C = 2\pi r$$

$$C = 2(3.14)(7)$$

$$\boxed{C \approx 44 \text{ cm}}$$

6) area = 314.2 ft<sup>2</sup>

$$A = \pi r^2$$

$$314.2 = (3.14) r^2$$

$$100 = r^2$$

$$10 \approx r$$

$$C = 2\pi r$$

$$C = 2(3.14)(10)$$

$$\boxed{C \approx 62.8 \text{ ft}}$$

## 12.5 What Happened When the TV Set Asked the Remote Control for a Date?

For full credit, you need to show at least 3 steps for each problem.

<p>1</p> $A = \pi r^2$ $= (3.14) 3^2$ $= (3.14) 9$ $\approx 28.3 \text{ in}^2$	<p>2</p> $A = \pi r^2$ $= (3.14) (5.2)^2$ $= (3.14) 27.04$ $\approx 84.9 \text{ m}^2$	<p>3</p> $A = \pi r^2$ $= (3.14) (40)^2$ $= 3.14 (1600)$ $\approx 5024 \text{ cm}^2$	<p>4</p> $A = \pi r^2$ $= (3.14) (9.4)^2$ $= (3.14) (88.36)$ $\approx 277.5 \text{ m}^2$
<p>5</p> $A = \pi r^2$ $= (3.14) (12)^2$ $= (3.14) (144)$ $\approx 452.2 \text{ in}^2$	<p>6</p> $A = \pi r^2$ $= (3.14) (.66)^2$ $= (3.14) (.4356)$ $\approx 1.37 \text{ m}^2$	<p>7</p> $A = \pi r^2$ $= (3.14) (3.75)^2$ $= (3.14) (14.06)$ $\approx 44.2 \text{ m}^2$	<p>8</p> $A = \pi r^2$ $= (3.14) 1^2$ $= 3.14 \text{ cm}^2$
<p>9</p> $A = \pi r^2$ $= (3.14) (60)^2$ $= (3.14) (3600)$ $\approx 11,304 \text{ m}^2$	<p>10</p> $A = \pi r^2$ $= (3.14) (5)^2$ $= (3.14) (25)$ $\approx 78.5$	<p>11</p> $A = \pi r^2$ $= (3.14) (7)^2$ $= (3.14) (49)$ $= 153.9 \text{ ft}^2$	<p>12</p> $A = \pi r^2$ $= (3.14) (1.5)^2$ $= (3.14) (2.25)$ $\approx 7.065$ $* 8.2 \text{ lbs} = 57.9 \text{ lbs}$
<p>13</p> $A = \pi r^2$ $= (3.14) (6)^2$ $= (3.14) (36)$ $\approx 113.04$ <p><math>\div 8 \text{ pieces} \approx</math></p> $14.1 \text{ in}^2$	<p>14</p> <p>large</p> $A = \pi r^2$ $= (3.14) (14)^2$ $= (3.14) (196)$ $\approx 615.44$ <p>Small</p> $A = \pi r^2$ $= (3.14) (10)^2$ $= (3.14) (100)$ $\approx 314$ <p>difference <math>\approx 301.4 \text{ ft}^2</math></p>	<p>15</p> <p>Rectangle</p> $A = b \cdot h$ $= (11)(6)$ $= 66$ <p>Circle</p> $A = \pi r^2$ $= (3.14) (5.5)^2$ $= (3.14) (30.25)$ $\approx 94.965$ <p>half <math>\approx 47.4825</math></p> <p>combined <math>113.5 \text{ cm}^2</math></p>	<p>16</p> <p>Rectangle</p> $A = b \cdot h$ $= (16)(8)$ $= 128$ <p>Circle</p> $A = \pi r^2$ $= (3.14) (4)^2$ $= (3.14) (16)$ $\approx 50.4$ <p>* 2 = 100.8</p> <p>difference <math>27.5 \text{ in}^2</math></p>

