### 5.3a Homework: How Many Diameters Does it Take to Wrap Around a Circle?

1. Identify 3 circular objects around the house (canned foods, door knobs, cups, etc.). Find the measure of each object’s diameter and then calculate its circumference. Put your results in the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| Description of item | Diameter (measured) | Circumference (calculated) | Ratio of *C* : *d* (calculated) to the nearest hundredth |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. What is the exact ratio of the circumference to the diameter of every circle?
2. If the radius of a circle is 18 miles,
	1. What is the measure of the diameter?
	2. What is the measure of the circumference, exactly in terms of pi?
	3. What is the approximate measure of the circumference, to the nearest tenth of a mile?
3. For each of the three circles below, calculate the circumference. Express your answer both in terms of pi, and also as an approximation to the nearest tenth.



The decimal for π starts with 3.141592653589… Which fraction is closest to π? (Note: there is no fraction that is *exactly* equal to π.)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| $$a) 3\frac{1}{4}$$ | $$b) 3\frac{1}{5}$$ | $$c) 3\frac{1}{7}$$ | $$d) 3\frac{1}{6}$$ | $$e) 3\frac{1}{8}$$ |

1. If the circumference of a circle is $20π$ feet, which of the following statements are true? Rewrite false statements to make them true.
	1. The circumference of the circle is exactly 62.8 feet.
	2. The diameter of the circle is 20 feet.
	3. The radius of the circle is 20 feet.
	4. The ratio of circumference : diameter of the circle is $π$.
	5. The radius of the circle is twice the diameter.
2. The circumference of 5 objects is given. Calculate the diameter of each object, to the nearest tenth of a unit.



1. The diameter or radius of 5 objects is given. Calculate the circumference of each object, to the nearest tenth of a unit.

Diameter of pizza

16”

Diameter of

rim of a drum

24”

Diameter of

coin

5 cm

Radius of

frying pan

5.5”

Radius of

table top

2’