

NAME: _____

1. 080108a

What is the approximate circumference of a circle with radius 3?

- [A] 18.85 [B] 7.07
[C] 9.42 [D] 28.27

2. 069914a

What is the diameter of a circle whose circumference is 5?

- [A] $\frac{5}{\pi^2}$ [B] $\frac{2.5}{\pi}$ [C] $\frac{5}{\pi}$ [D] $\frac{2.5}{\pi^2}$

3. 010437a

A wheel has a radius of 5 feet. What is the minimum number of *complete* revolutions that the wheel must make to roll at least 1,000 feet?

4. 080027a

To measure the length of a hiking trail, a worker uses a device with a 2-foot-diameter wheel that counts the number of revolutions the wheel makes. If the device reads 1,100.5 revolutions at the end of the trail, how many miles long is the trail, to the *nearest tenth of a mile*?

5. 010215b

Every time the pedals go through a 360° rotation on a certain bicycle, the tires rotate three times. If the tires are 24 inches in diameter, what is the minimum number of complete rotations of the pedals needed for the bicycle to travel at least 1 mile?

- [A] 561 [B] 12 [C] 281 [D] 5,280

[1] A _____

[2] C _____

[3] 32, and appropriate work is shown, such as finding the circumference to be 10π and dividing 1,000 by 10π .

[2] Appropriate work is shown, but one computational or rounding error is made or the answer is expressed in terms of π .

[1] An incorrect circumference formula is used, but an appropriate number of revolutions is found.

or [1] The circumference of the wheel is found to be 10π or an equivalent decimal, but no further correct work is shown.

or [1] 32, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[3] incorrect procedure.

[3] 1.3 and appropriate work is shown, such as calculating the circumference of the wheel and the length of the trail in feet, and converting them to miles, such as

$$\frac{2 \cdot \pi \cdot 1100.5}{5280}.$$

[2] The student correctly calculates the circumference and length in feet but does not convert them to miles.

or [2] Correct calculations are shown, but the answer is rounded incorrectly or is not rounded.

or [2] Appropriate work is shown, but one error is made.

[1] The correct circumference is calculated.

or [1] Appropriate work is shown, but more than one error is made.

or [1] 1.3 but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[4] incorrect procedure.

[5] C _____