

Name _____

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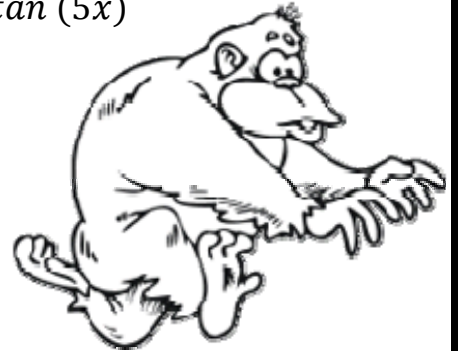
Modeling Phenomena with Trigonometric Functions - Step-by-Step Lesson

Choose the one which has the period of 5π .

A) $y = 2 \cos \left(\frac{5x}{7} \right)$

B) $y = 6 \sin \left(\frac{4x}{10} \right)$

C) $y = 8 \tan (5x)$



Explanation:

The period of $\sin (x)$ or $\cos (x) = 2\pi / (\text{Multiplier of } x \text{ or } \theta)$

The period of $\tan (x) = \pi / (\text{Multiplier of } x \text{ or } \theta)$

Evaluate each choice:

A) $2\pi / (5/7) = \sim 2.8 \pi$

B) $2\pi / (4/10) = 5 \pi$

C) $\pi / (5) = 1/5 \pi$

$y = 6 \sin \left(\frac{4x}{10} \right)$ has the period of 5π . Letter B fits the choice.

