

Math 206 - Quiz 10

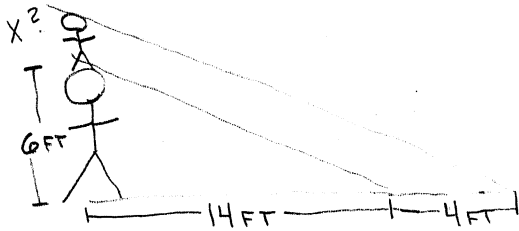
April 29, 2015

Name key

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (2.5 points) On Tuesday at 4pm, zookeeper Joe, who is exactly 6ft tall cast 14-ft shadow. A second later, a monkey jumped onto his head and the shadow grew to 18ft. How tall is the monkey? Round your answer to the nearest hundredth of a foot, and then convert that answer to centimeters.



$$\frac{6}{14} = \frac{6+x}{18}$$

$$14(6+x) = 6(18)$$

$$14x = 24 \Rightarrow x = \frac{12}{7} \text{ FT}$$

$$\approx 1.71 \text{ FT}$$

$$\frac{1.71 \text{ FT}}{1} \times \frac{12 \text{ in}}{1 \text{ FT}} \times \frac{2.54 \text{ cm}}{1 \text{ in}} = 52.1208 \text{ cm}$$

2. (2.5 points) Draw a line and mark a line segment on it—the length of this line segment is exactly one unit long. Now use a compass and straightedge to construct a line segment that is exactly $\sqrt{5}$ units long. (Hint: Think about the Pythagorean Theorem.)

CONSTRUCT A RECTANGLE OF LENGTH 2 AND WIDTH 1.
DIAG HAS LENGTH $\sqrt{5}$.

