Accuracy is

Precision is

Tolerance is

A company sells furniture for home assembly. Their largest bookcase has shelves that should be 110 cm, with a tolerance of 0.5 cm (110 cm ± 0.5 cm). A set of six shelves had lengths of 109.9 cm, 109.6 cm, 109.8 cm, 109.4 cm, 110.3 cm, and 110.6 cm. Which, if any, of the shelves are not within the specified tolerance?

a. Both the 109.4 and 110.6 cm shelves.
b. Only the 109.4 cm shelf
c. All of the shelves are within the tolerance.
d. Only the 110.6 cm shelf

A kitten weighs 2.256 lbs. Which of the following measurements is the most accurate?

a. 2.365 lbs
b. 2.2 lbs
c. 2.19 lbs
d. 2.4 lbs

Perform the indicated operation. Write the answer with the correct number of significant digits.

683.15 m × 65.9 m

a. 45800 m^2
b. 45000 m^2
c. 45023 m^2
d. 45020 m^2

Perform the indicated operation. Write the answer with the correct number of significant digits.
$758.0\ m^2 \div 301.85\ m$

2.51 m
2.511 m
2.51118 m
2.5112 m

Topic: Use Precision and Significant Digits

A seamstress measures an inseam to the nearest centimeter and reports its length as 71 cm. What is the least possible length of the inseam? What is the greatest possible length of the inseam?

a. least: 69.5 cm
greatest: 70.5 cm
b. least: 70 cm
greatest: 72 cm
c. least: 69.5 cm
greatest: 71.5 cm
d. least: 70.5 cm
greatest: 71.5 cm

Choose the possible range of the measurement 0.5 mg ± 0.2%.

a. 0.3 mg–0.7 mg
b. 0.499 mg–0.501 mg
c. 0.49 mg–0.51 mg
d. 0.48 mg–0.52 mg

The tolerance for a plank of wood at a factory is 3 yd ± 0.002 yd. Which of the following does NOT fall within the specified tolerance?

a. 3.012 yd
b. 3.001 yd
c. 2.998 yd
d. 2.999 yd