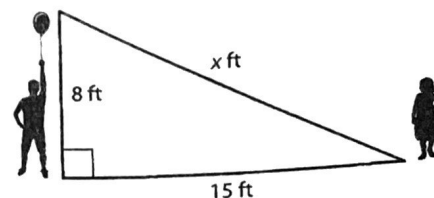Name _____   Date _____

Ready® Mathematics
Lesson 24   Quiz

Solve the problems.

1 Kyle held a balloon 8 feet off the ground, straight above his head. Ava is standing 15 feet directly to the right of Kyle.

Part A

Which equation can be used to find the value of x?

A $15^2 - 8^2 = x^2$

B $15^2 - x^2 = 8^2$

C $8^2 + 15^2 = x^2$

D $8^2 + x^2 = 15^2$

Part B

How far is Ava from the balloon?

Answer: _____ feet

2 Catalina skates 40 feet due north in a skating rink. Then she skates 30 feet due west, before skating diagonally across the rink back to where she started. What is the total distance Catalina skates?

Answer: _____ feet

3 Suppose a 50-foot ladder is leaning against a wall. Which statements about the base of the ladder are true?

Choose all that apply.

A   If the base is 14 feet from the wall, the ladder reaches 48 feet up the wall.

B   If the base is 24 feet from the wall, the ladder reaches 45 feet up the wall.

C   If the base is 27 feet from the wall, the ladder reaches 44 feet up the wall.

D   If the base is 30 feet from the wall, the ladder reaches 40 feet up the wall.
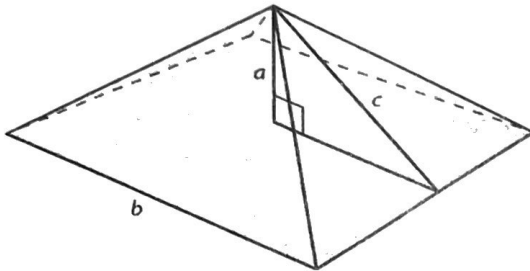
Lesson 24 Quiz continued

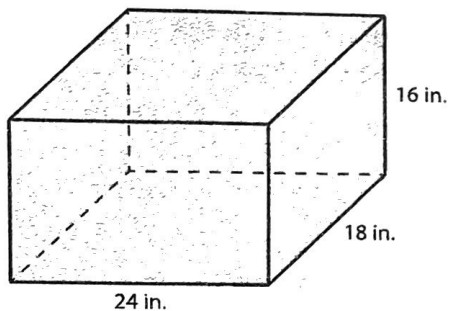**4** A square pyramid with $a = 20$ mm and $b = 96$ mm is shown.

What is the length of side c?

Show your work.

Answer: _____ millimeters

5 Hugh's baseball bat has a length of 33 inches. He wants to know if it will fit completely inside the box shown.

16 in.

18 in.

24 in.

Will the baseball bat fit completely in the box? Explain your reasoning.

_____

_____

_____

_____

_____

The Law of Conservation of Mass states: In a chemical reaction, matter is neither created nor destroyed. With this knowledge, identify if it following equation follow the Law of Conservation of Mass. You must show your work by counting the atoms using the chart then answer the question. You must explain your answer.

1. $N_2 + H_2 \longrightarrow NH_3$ 2. $NaCl + F_2 \longrightarrow NaF + Cl_2$

3. $CH4 + O_2 \longrightarrow CO_2 + H_2O$ 4. $H_2O + O_2 \longrightarrow H_2O_2$

5. $NaBr + CaF_2 \longrightarrow NaF + CaBr_2$ 6. $K_2 + MgBr_2 \longrightarrow 2KBr + Mg$