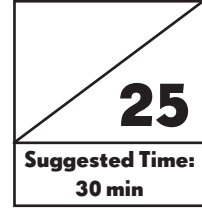


CHAPTER TEST A**Exponents****Concepts and Skills** (10 × 1 point = 10 points)

Write the prime factorization of each number in exponential notation.

1. 6,600

2. 52,920

Expand and evaluate each expression.

3. 5.6^3

4. $\left(-\frac{1}{3}\right)^4$

Evaluate each expression.

5. $4 \cdot 10^2 + 6 \cdot 10^0 + 2 \cdot 10^{-1} + 5 \cdot 10^{-2}$

6. $\frac{3^{-1} \cdot 7^7 \cdot (3^4)^3}{21^9}$

Simplify each expression.

7. $12b^8c^5 \cdot 3b^{-4}c$

8. $\frac{9p^7q^{-5}}{45p^{-3}q^6}$

Solve each equation.

9. $x^2 = \frac{81}{100}$

10. $x^3 = \frac{125}{216}$

Name: _____

Date: _____

Problem Solving (Question 11: 2 points,
Question 12: 3 points,
Questions 13 to 17: 5×2 points = 10 points)

Solve. Show your work.

11. Given the following list of expressions:

$$-6^3, 6^{-2}, \text{ and } (-5)^3$$

a) Evaluate each expression.

b) Order the expressions from least to greatest.

12. A thumb drive has a storage capacity of 1,000,000,000 bytes. A hard drive has a storage capacity of 10,000,000,000 bytes.

a) Write each storage capacity as 10 raised to a power.

b) What is the total storage capacity of 1,000 similar thumb drives? Write your answer in exponential notation.

c) How many times as great as the storage capacity of the thumb drive is the storage capacity of the hard drive?