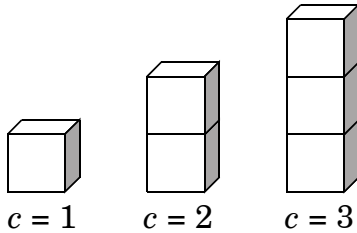


1. To find the image length L of a 4-foot tall object in a spherical mirror with a focal length of 2 feet, $L = 4\left(\frac{2}{o-2}\right)^2$ can be used, where o is the distance, in feet, of the object from the mirror. What is the image length of the object when it is 1.5 feet away from the mirror?
- A 256 feet
B 128 feet
C 64 feet
D 32 feet
2. When Robert was born, his grandfather invested \$1,000 for his college education. At an interest rate of 4.5%, compounded annually, **approximately** how much would Robert have at age 18? Use the formula $A = P(1 + r)^t$, where P is the principal, r is the interest rate, and t is the time in years.
- A \$1,810
B \$2,200
C \$3,680
D \$18,810
3. The voltage required for a circuit is found by $\sqrt{P \cdot R}$ where P is the power, in watts, and R is the resistance, in ohms. What is the approximate difference in the voltages required to light a 60-watt bulb and a 75-watt bulb, both of which have a resistance of 110 ohms?
- A 0.56 volts
B 9.59 volts
C 18.41 volts
D 40.34 volts
4. The length of a rectangle is 2 units greater than the width, w . What is the area of the rectangle?
- A $4w + 4$
B $4w + 2$
C $2w + 2$
D $w^2 + 2w$

5. Which expresses the total surface area (including the top and bottom) of a tower of c cubes each having side length e ? (Do not include faces that touch each other.)



- A $(4c + 2)e^2$
- B $c \cdot e^3$
- C $6c \cdot e^2$
- D $4c \cdot e^2$

End of Goal 2 Sample Items

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Answers to EOC Mathematics Algebra I Sample Items

Goal 2

1. Objective 2.01

Use formulas and algebraic expressions (from science, geometry, statistics, etc.) to solve problems.

Thinking Skill: Applying

Correct Answer: C

2. Objective 2.01

Use formulas and algebraic expressions (from science, geometry, statistics, etc.) to solve problems.

Thinking Skill: Applying

Correct Answer: B

3. Objective 2.01

Use formulas and algebraic expressions (from science, geometry, statistics, etc.) to solve problems.

Thinking Skill: Organizing

Correct Answer: B

4. Objective 2.02

Describe, extend, and express algebraically a wide variety of geometric patterns.

Thinking Skill: Integrating

Correct Answer: D

5. Objective 2.02

Describe, extend, and express algebraically a wide variety of geometric patterns.

Thinking Skill: Organizing

Correct Answer: A