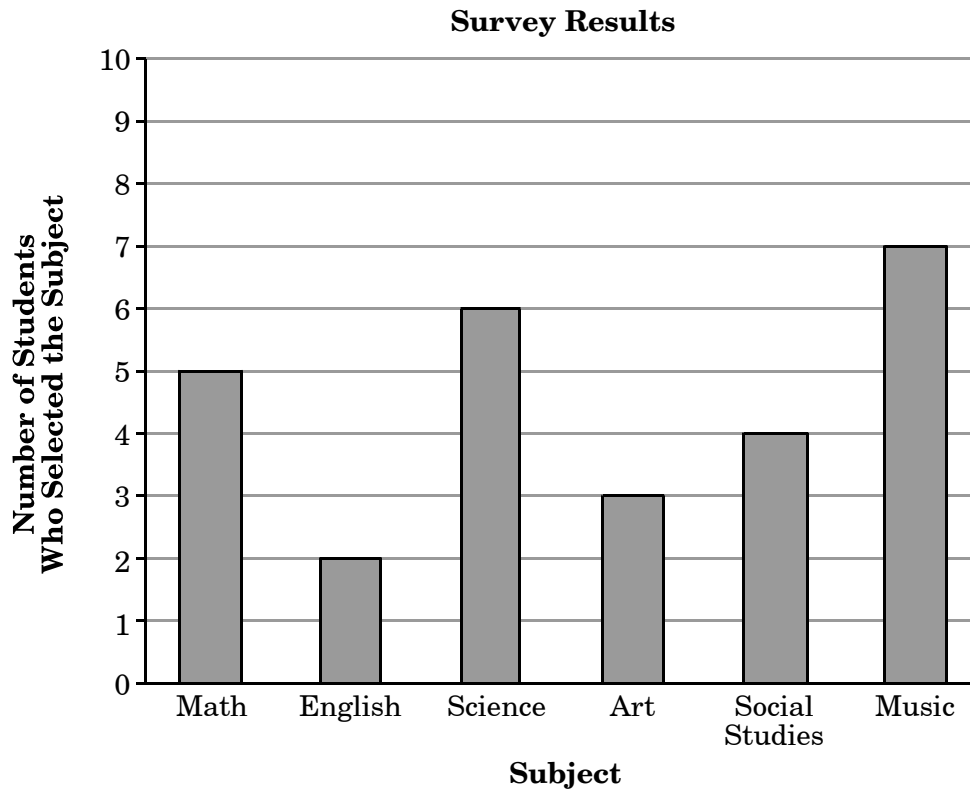


1. Simplify: $6(2x + 3y) + 3(x - y)$
- A $12x + 15y$
- B $15x + 15y$
- C $12x - 13y$
- D $9x$
2. Simplify: $10 + 2(4 + w)$
- A $2w + 18$
- B $w + 18$
- C $w + 16$
- D $2w + 14$
3. Which expression is equivalent to $3(n + 2m) + m$?
- A $3n + 2m$
- B $3n + 4m$
- C $3n + 6m$
- D $3n + 7m$
4. Evaluate: $2 + (8 - 4) + 3^2 \times \frac{6}{2}$
- A 36
- B 35
- C 33
- D 24
5. Evaluate: $7^2 \times (9 - 4) + 10 \div 2 - 1$
- A 225
- B 249
- C 441
- D 735
6. Evaluate:
 $y + y + c - 10 + x$
when $x = 7$, $y = 10$, and $c = 8$
- A 11
- B 21
- C 25
- D 105

7. The distance to the beach is fifty miles more than twice the distance to the mountains. If m represents the distance to the mountains, which expression represents the distance to the beach?
- A $50m$
B $2m + 50$
C $50m + 2$
D $100m + 50$
8. A triangle has two congruent sides that are x centimeters long. The third side measures 3 centimeters more than each of the congruent sides. Which expression could be used to represent the perimeter in centimeters of this triangle?
- A $4x + 6$
B $3x + 6$
C $3x + 3$
D $2x + 3$
9. If 7 points were added to Jane's current math grade, her grade would be higher than 100. Which inequality best represents the possible values for Jane's current math grade, g ?
- A $g > 93$
B $g > 107$
C $g < 93$
D $g < 107$
10. What is the solution of the inequality $\frac{3}{8}x > 9$?
- A $x > 216$
B $x > 72$
C $x > 24$
D $x > 14$
11. What is the value of x in the following equation?
- $$\frac{2.5}{x} = 0.04$$
- A 100
B 62.5
C 0.10
D 0.016

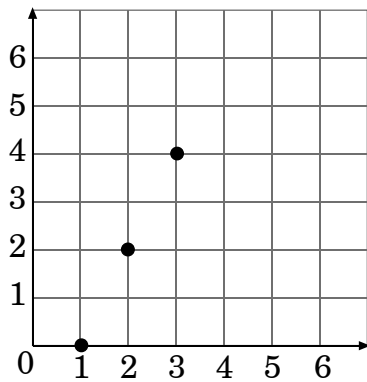
12. On a survey, each student in Mr. Marshall's class selected a favorite subject.



What is the ratio of the total number of students who selected Music or Art to the total number who selected Math or Science?

- A 11 : 8
- B 6 : 13
- C 10 : 11
- D 11 : 10

13. If the pattern on the graph continues, which rule can be used to find the second number in the ordered pair (5, ___)?



- A multiply the first number by 2, then subtract 2
- B multiply the first number by 3, then subtract 4
- C subtract 1 from the first number
- D subtract 2 from the first number

14. Mark burns 51 calories when he plays volleyball for 15 minutes. At this rate, how fast is Mark burning calories?

- A $\frac{5}{17}$ calories per minute
- B $\frac{2}{3}$ calories per minute
- C $\frac{3}{2}$ calories per minute
- D $\frac{17}{5}$ calories per minute

End of Goal 5 Sample Items

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Answers to EOG Grade 6 Math Sample Items

Goal 5

1. Objective 5.01

Simplify algebraic expressions and verify the results using the basic properties of rational numbers. A) Identity. B) Commutative. C) Associative. D) Distributive. E) Order of operations.

Thinking Skill: Integrating

Correct Answer: B

2. Objective 5.01

Simplify algebraic expressions and verify the results using the basic properties of rational numbers. A) Identity. B) Commutative. C) Associative. D) Distributive. E) Order of operations.

Thinking Skill: Applying

Correct Answer: A

3. Objective 5.01

Simplify algebraic expressions and verify the results using the basic properties of rational numbers. A) Identity. B) Commutative. C) Associative. D) Distributive. E) Order of operations.

Thinking Skill: Applying

Correct Answer: D

4. Objective 5.01

Simplify algebraic expressions and verify the results using the basic properties of rational numbers. A) Identity. B) Commutative. C) Associative. D) Distributive. E) Order of operations.

Thinking Skill: Applying

Correct Answer: C

5. Objective 5.01

Simplify algebraic expressions and verify the results using the basic properties of rational numbers. A) Identity. B) Commutative. C) Associative. D) Distributive. E) Order of operations.

Thinking Skill: Applying

Correct Answer: B

6. Objective 5.02

Use and evaluate algebraic expressions.

Thinking Skill: Applying

Correct Answer: C

7. Objective 5.02

Use and evaluate algebraic expressions.

Thinking Skill: Analyzing

Correct Answer: B

8. Objective 5.02

Use and evaluate algebraic expressions.

Thinking Skill: Analyzing

Correct Answer: C

- 9. Objective 5.03**
Solve simple (one- and two-step) equations or inequalities.
Thinking Skill: Analyzing **Correct Answer:** A
- 10. Objective 5.03**
Solve simple (one- and two-step) equations or inequalities.
Thinking Skill: Applying **Correct Answer:** C
- 11. Objective 5.03**
Solve simple (one- and two-step) equations or inequalities.
Thinking Skill: Applying **Correct Answer:** B
- 12. Objective 5.04**
Use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.
Thinking Skill: Analyzing **Correct Answer:** C
- 13. Objective 5.04**
Use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.
Thinking Skill: Analyzing **Correct Answer:** A
- 14. Objective 5.04**
Use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.
Thinking Skill: Integrating **Correct Answer:** D