

Writing, Evaluating and Simplifying Algebraic Expressions

Grade 6 math · Test · Standards: 6.EE.A.2, 6.EE.A.3, 6.EE.A.4

Name: _____ Date: _____ Class: _____

This test has 9 questions worth 20 points and should take about 45 minutes. Show every substitution and every step of simplifying. Calculators are not allowed.

Standards: 6.EE.A.2, 6.EE.A.3, 6.EE.A.4 · **Level:** Grade 6

Time: 45 minutes · 9 questions · Total: 20 points · Calculator: as allowed by your teacher

Question 1 Parts of an expression (2 points)

Consider $8y + 5$.

- What is the coefficient of y ? (1 point)
- What is the constant term? (1 point)

Question 2 Writing expressions (2 points)

Write an expression for each phrase.

- 6 less than 4 times a number n (1 point)
- the quotient of w and 9 (1 point)

Question 3 Evaluate with a power (2 points)

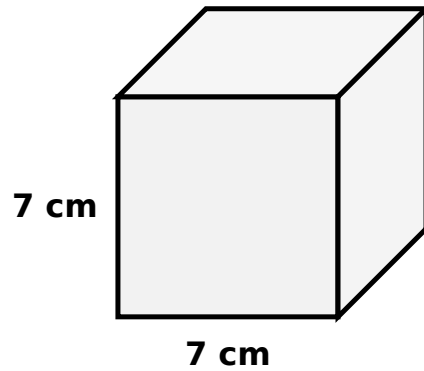
Evaluate $2t^2 - 9$ when $t = 6$.

Question 4 Two variables (2 points)

Evaluate $5p - 2q$ when $p = 6$ and $q = 7$.

Question 5 Cube formulas (3 points)

A cube has edge $s = 7$ cm.



Cube with edge $s = 7$ cm.

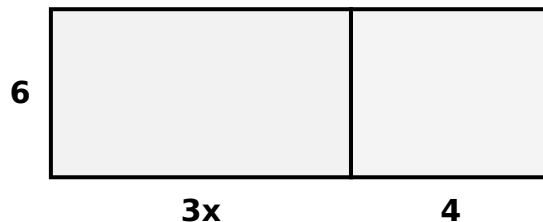
- a. Use $V = s^3$ to find the volume. (1 point)
- b. Use $A = 6s^2$ to find the surface area. (2 points)

Question 6 Distributive property (2 points)

- a. Expand $5(x + 6)$. (1 point)
- b. Simplify $7a + 3 + 2a - 1$. (1 point)

Question 7 Factoring (2 points)

The rectangle has total area $18x + 24$. Write the area as the GCF times a sum.



Rectangle for Question 7.

Question 8 Scooter rental (3 points)

A scooter rental costs \$5 plus \$0.75 per minute.

- a. Write an expression for the cost of m minutes. (1 point)
- b. Find the cost of 20 minutes. (1 point)
- c. Find the cost of 12 minutes. (1 point)

Question 9 Equivalent or not (2 points)

Tara says $2(n + 5)$ and $2n + 5$ are equivalent.

- a. Test both expressions when $n = 4$. (1 point)

b. Is Tara correct? Write the correct expression equivalent to $2(n + 5)$. (1 point)