

Algebra 1 - Structure of Algebraic Expressions - Test Answer Key

Common Core A-SSE.A.1a, A-SSE.A.1b · maths-pdf.fr/en/

Use this key to grade the expressions test. Each solution shows the full work, and the scoring note explains how the points are awarded. The test totals 20 points. Give partial credit for correct steps, even when the final answer is wrong.

Algebra 1 · Common Core State Standards: **A-SSE.A.1a, A-SSE.A.1b**

Question 1 - Parts of an expression [2 pts]

- a) The constant term is **12**.
- b) The coefficient of x is **-7** (the sign stays with the term).

Scoring: 1 point for each part. Award no point for 7 in part b.

Question 2 - Evaluate [2 pts]

$$2(-3)^2 - 3(-3) + 1 = 2(9) + 9 + 1 = 28.$$

28

Scoring: 1 point for correct substitution with the exponent applied before multiplying; 1 point for the correct value.

Question 3 - Combine like terms [2 pts]

$$(9a + 2a) + (-4 + 10) = 11a + 6.$$

$$11a + 6$$

Scoring: 1 point for each correct term.

Question 4 - Distribute and subtract [2 pts]

	2x	-3
5	10x	-15

First product.

$10x - 15 - 4x + 4$, then combine: $6x - 11$.

$6x - 11$

Scoring: 1 point for distributing both factors correctly (including the sign of $-4(-1)$); 1 point for the final expression.

Question 5 - Streaming plan [2 pts]

a) 2.5 is the coefficient of w : the plan adds \$2.50 each week (the table rises from \$12.49 to \$14.99).

b) 9.99 is the constant: a one-time charge of \$9.99 paid at the start.

Scoring: 1 point for each correct interpretation with units.

Question 6 - Write expressions [2 pts]

a) $2n + 7$.

b) $6(n+4)$, since the sum is a group multiplied by 6.

Scoring: 1 point for each expression. Part b needs the parentheses.

Question 7 - Write as a product [2 pts]

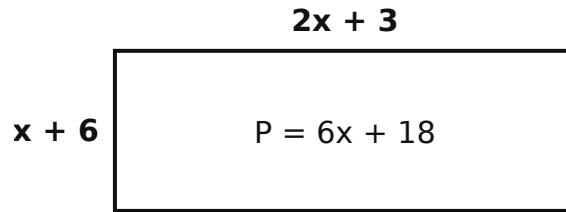
Both terms share the quantity $(x+4)$, so $(3+2)(x+4) = 5(x+4)$.

At $x = 1$: $5(5) = 25$.

$5(x+4)$; **25**

Scoring: 1 point for the product; 1 point for the value.

Question 8 - Perimeter [3 pts]



Perimeter $6x + 18$.

a) $2(2x+3)+2(x+6)=4x+6+2x+12=6x+18$.

b) $6(5)+18=48$.

$6x+18$; **48**

Scoring: part a, 1 point for setting up the perimeter and 1 point for simplifying; part b, 1 point.

Question 9 - Compare plans [3 pts]

a) Plan A charges \$3.50 per gigabyte.

b) $(20+2g)-(12+3.5g)=20+2g-12-3.5g=8-1.5g$.

c) $8-1.5(4)=2$: at 4 gigabytes Plan B costs \$2 more.

3.50 per GB; $8-1.5g$; \$2 more

Scoring: 1 point per part.

Total
20 points