LESSON MAKER PRO

Scores and Squares

Find values of expressions in everyday situations.

GRADE 6 · 6.AT.B.6.c

6.AT.B.6.c "Evaluate expressions given specific values of their variables in context. Include expressions that involve arithmetic operations and whole number exponents."

NAME _____ DATE _____

SUBSTITUTE, THEN CALCULATE

Replace each variable with its given value. Calculate exponents first, then multiply or divide, and finally add or subtract.

WORKED EXAMPLE

An arcade awards 13 points per round plus b^3 bonus points. Find the total given by $13r + b^3$ when $r = 6$ and $b = 3$.

1. Substitute: $13(6) + 3^3$
2. Calculate: $78 + 27$
3. Add: 105

Answer: 105 points

PRACTICE 6 problems

1 A sticker order has p packs of 8 stickers plus 10 loose stickers. Find $8p + 10$ when $p = 4$.

ANSWER _____

2 A game starts you with 12 coins and gives you 5 coins per level. Find $12 + 5l$ when $l = 8$.

ANSWER _____

3 A club sets out s rows of s chairs, then adds 14 more chairs. Find $s^2 + 14$ when $s = 5$.

ANSWER _____

4 A game uses $4x^2 + 12$ to calculate a score. Find the score when $x = 2$.

ANSWER _____

5 A reading challenge gives 10 points per book and takes away 4 points for a late entry. Find $10b - 4$ when $b = 8$.

ANSWER _____

6 A game bonus starts at 1 token on day 0 and doubles each day. Find $2^d + 18$ tokens when $d = 4$.

ANSWER _____

APPLY IT Show your work

1 A game gives 8 points for each badge you earn. It also gives a bonus that starts at 1 point on day 0 and doubles each day. Your score is $8b + 2^d$, where b is your number of badges and d is the day. What is your score when b = 5 and d = 4?

WORK SPACE

ANSWER _____

2 A creator posts s photos each day for s days, then posts 8 bonus photos. Use $s^2 + 8$ to find the total number of photos when s = 10.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A game calculates a score using $5x^2 + 8$. When x = 4, Jordan gets 408 by multiplying 5 times 4, squaring the result, and adding 8. Find the correct score. Explain Jordan's mistake.

WORK SPACE AND ANSWER

ANSWER KEY

Scores and Squares

GRADE 6 · 6.AT.B.6.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A sticker order has p packs of 8 stickers plus 10 loose stickers. Find 8p + 10 when p = 4.	**42 stickers**
2	A game starts you with 12 coins and gives you 5 coins per level. Find 12 + 5l when l = 8.	**52 coins**
3	A club sets out s rows of s chairs, then adds 14 more chairs. Find s^2 + 14 when s = 5.	**39 chairs**
4	A game uses $4x^2$ + 12 to calculate a score. Find the score when x = 2.	**28 points**
5	A reading challenge gives 10 points per book and takes away 4 points for a late entry. Find 10b - 4 when b = 8.	**76 points**
6	A game bonus starts at 1 token on day 0 and doubles each day. Find 2^d + 18 tokens when d = 4.	**34 tokens**

PART 2 · APPLY IT

1. **56 points** Substitute to get 8(5) + 2^4 = 40 + 16 = 56.
2. **108 photos** Substitute 10 for s: 10^2 + 8 = 100 + 8 = 108.

CHALLENGE

88 points. Jordan squared 5 times 4, but the exponent applies only to x. Calculate 5(4^2) + 8 = 5(16) + 8 = 88.

Accept answers with or without units when the value is correct. For the challenge, accept any explanation that makes clear only x is squared, not 5x.