

Expression Power

Substitute values and simplify with order of operations.

GRADE 6 • MA.6.AR.1

MA.6.AR.1 "Apply previous understanding of arithmetic expressions to algebraic expressions."

NAME _____

DATE _____

EVALUATE EXPRESSIONS

To evaluate an algebraic expression, replace x with its given value. Then use the order of operations, doing parentheses and multiplication or division before addition or subtraction.

WORKED EXAMPLE

Evaluate $4x + 7$ when $x = 3$.

1. Substitute 3 for x : $4(3) + 7$
2. Multiply: $12 + 7$
3. Add: 19

Answer: 19

PRACTICE 6 problems

1 Evaluate $2x + 5$ when $x = 6$.

ANSWER _____

2 Evaluate $6x - 8$ when $x = 5$.

ANSWER _____

3 Evaluate $20/x + 6$ when $x = 5$.

ANSWER _____

4 Evaluate $5(x + 2)$ when $x = 6$.

ANSWER _____

5 Evaluate $26 - 2x$ when $x = 8$.

ANSWER _____

6 Evaluate $2x + 5(x - 1)$ when $x = 6$.

ANSWER _____

APPLY IT Show your work

- 1** A music app charges \$6 each month plus \$2 for each song download. If Riley downloads 8 songs, how much does Riley pay that month?

WORK SPACE

ANSWER _____

- 2** A game club has 5 packs of card sleeves with x sleeves in each pack, plus 12 loose sleeves. If each pack has 9 sleeves, how many sleeves does the club have?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Evaluate $2(5x - 6) + 8$ when $x = 6$.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Evaluate $2x + 5$ when $x = 6$.	17
2	Evaluate $6x - 8$ when $x = 5$.	22
3	Evaluate $20/x + 6$ when $x = 5$.	10
4	Evaluate $5(x + 2)$ when $x = 6$.	40
5	Evaluate $26 - 2x$ when $x = 8$.	10
6	Evaluate $2x + 5(x - 1)$ when $x = 6$.	37

PART 2 • APPLY IT

1. **\$22** Use $6 + 2x$, where x is the number of downloads. Substitute 8: $6 + 2(8) = 22$.
2. **57 sleeves** Use $5x + 12$, where x is the number of sleeves in each pack. Substitute 9: $5(9) + 12 = 57$.

CHALLENGE

56

Accept correct numerical answers with or without shown substitution steps. For the word problems, accept equivalent expressions such as $6 + 2(8)$ and $5(9) + 12$.