

Chapter 2 — Evaluating Algebraic Expressions

Worksheet C: Mixed Application

Name: _____ Grade: _____ Date: _____

1. A streaming service charges a \$12 monthly fee and \$1.50 for each movie rental. The monthly cost is represented by $12+1.50r$. Find the cost when $r=6$.

2. A rectangle has length $3w+2$ and width w . The area is represented by $w(3w+2)$. Find the area when $w=4$.

3. Evaluate: y^2-4y+6 when $y=-1$

4. Evaluate: $(4m)^2$ when $m=2$

5. The total amount saved is represented by $15w+40$ where w is the number of weeks. Find the total amount saved after $w=12$.

6. Evaluate: $8x+3$ when $x=-2$

7. Evaluate: $-4m^2$ when $m=2$

8. Evaluate: $2a^2+5b$ when $a=-3$, $b=4$

9. Evaluate: $2(p-4)^2+p$ when $p=6$

10. Evaluate: $3(n+2)^2-1$ when $n=1$

11. A square has side length $x+3$. The area is represented by $(x+3)^2$. Find the area when $x=5$.

12. A student evaluates $2x^2+4x$ when $x=-3$ and writes: $2(-9)-12=-30$. Identify the error and write the correct value.

13. A student evaluates $(3y)^2$ when $y=-2$ and writes: $3(-2)^2=12$. Explain why the student's method does not match the original expression. Then calculate the correct value.

14. Non-Routine: A company charges a fixed fee of \$25 plus \$4 for each item ordered. The total cost is represented by $25+4n$. A customer says that ordering 6 items will cost \$841 because $25+4(6)=29^2=841$. Is the customer correct? Identify every change to the original expression and calculate the correct cost.
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15. Non-Routine: A student evaluates the expression $3(x-2)^2+4$ when $x=-1$. The student writes: $3(-1-2)^2+4=3(-3)^2+4=-27+4=-23$. Is the student correct? Identify the exact wrong move and find the correct value.
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