Algebra: Evaluating Expressions — Set B

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Name: _____ Date: _____ Score: ____ / 10

DIRECTIONS

Substitute the given value(s) for each variable, then simplify using the order of operations. Show each substitution step.

1. Evaluate when x = 6:

   $5x - 4$

   Answer: _____

2. Evaluate when t = −3:

   $4t + 10$

   Answer: _____

3. Evaluate when m = 4:

   $m^2 - 5m + 6$

   Answer: _____

4. Evaluate when c = −2:

   $3c^2 + c - 7$

   Answer: _____

5. Evaluate when x=5, y=−3:

   $x + 3y$

   Answer: _____

6. Evaluate when x=5, y=−3:

   $2x^2 - y$

   Answer: _____

7. Evaluate when a=2, b=−4:

   $a^2 - ab + b^2$

   Answer: _____

8. Evaluate when p=−1, q=3:

   $4p^2 - 2pq + q^2$

   Answer: _____

9. Evaluate when x=3, y=−2:

   $x^2y - xy^2$

   Answer: _____

10. Evaluate when m=2, n=−3:

    $m^3 - 2m^2n + n^2$

    Answer: _____

Based on the Numberbender lesson "ALGEBRA - Evaluating Algebraic Expressions | how to?" • youtu.be/CjxUTr6FxGc

Answer Key & Solutions

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TEACHER NOTES

Set B extends Set A with slightly more complex expressions. Items 1–4: one variable. Items 5–7: two variables including negatives. Items 8–10: multi-term expressions with exponents.

1. Evaluate when $x = 6$: $5x - 4$

Answer: 26

$5(6)-4 = 30-4 = 26$.

2. Evaluate when $t = -3$: $4t + 10$

Answer: −2

$4(-3)+10 = -12+10 = -2$.

3. Evaluate when $m = 4$: $m^2 - 5m + 6$

Answer: 2

$16-20+6 = 2$.

4. Evaluate when $c = -2$: $3c^2 + c - 7$

Answer: 3

$3(4)+(-2)-7 = 12-2-7 = 3$.

5. Evaluate when $x=5$, $y=-3$: $x + 3y$

Answer: −4

$5+3(-3) = 5-9 = -4$.

6. Evaluate when $x=5$, $y=-3$: $2x^2 - y$

Answer: 53

$2(25)-(-3) = 50+3 = 53$.

7. Evaluate when $a=2$, $b=-4$: $a^2 - ab + b^2$

Answer: 28

$4-(-8)+16 = 4+8+16 = 28$.

8. Evaluate when $p=-1$, $q=3$: $4p^2 - 2pq + q^2$

Answer: 19

$4(1)-2(-1)(3)+(9) = 4+6+9 = 19$.

9. Evaluate when $x=3$, $y=-2$: $x^2y - xy^2$

Answer: −30

$(9)(-2)-(3)(4) = -18-12 = -30$.

10. Evaluate when $m=2$, $n=-3$: $m^3 - 2m^2n + n^2$

Answer: 41

$8-2(4)(-3)+9 = 8+24+9 = 41$.