Critiquing Operations on Expressions

Name:_____ Date:_____ Period:_____

Directions: Critique the following student work by checking one of the three boxes. If you check the 2nd or 3rd box, use the explanation box to describe what was completed incorrectly.

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1. Simplify $4x - 2 + (-2x) + 7$.

$4x - 2 - 2x + 7$

$(4x - 2x) - (2 + 7)$

$\boxed{2x - 9}$

Check one of the following:	Explanation
☐ The answer is correct and the work proves the answer is correct. ☐ The answer is correct, but the work doesn't prove it. (Explain in the next box→) ☐ The answer is incorrect. (Explain in the next box→)	

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2. Simplify $(11.5x - 6) + (-2x + 3)$.

$11.5x - 2x + 6 + 3$

$\boxed{9.5x - 3}$

Check one of the following:	Explanation
☐ The answer is correct and the work proves the answer is correct. ☐ The answer is correct, but the work doesn't prove it. (Explain in the next box→) ☐ The answer is incorrect. (Explain in the next box→)	

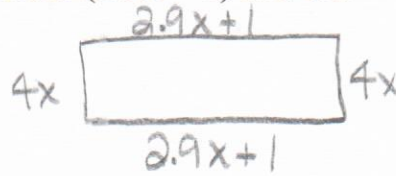3. Find the perimeter of the rectangle with sides $(2.9x + 1)$ and $4x$.

$2(2.9x + 1) + 4x$

$2(2.9x) + 2(1) + 4x$
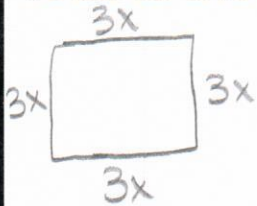
$4.58x + 2 + 4x$

$4.58x + 4x + 2$

$\boxed{8.58x + 2}$

$\overset{2.9x+1}{\underset{2.9x+1}{4x \boxed{} 4x}}$

Check one of the following:	Explanation
☐ The answer is correct and the work proves the answer is correct. ☐ The answer is correct, but the work doesn't prove it. (Explain in the next box→) ☐ The answer is incorrect. (Explain in the next box→)	

4. Find the area of the square with side $3x$.

$\overset{3x}{\underset{3x}{3x \boxed{} 3x}}$

$4(3x)$

$\boxed{12x}$

Check one of the following:	Explanation
☐ The answer is correct and the work proves the answer is correct. ☐ The answer is correct, but the work doesn't prove it. (Explain in the next box→) ☐ The answer is incorrect. (Explain in the next box→)	

5. Simplify $2[3 - (x + 7)]$.

$$2(3) + 2(x+7)$$

$$6 - 2x + 14$$

$$6 + 14 - 2x$$

$$\boxed{20 - 2x}$$

Check one of the following:	Explanation
☐ The answer is correct and the work proves the answer is correct. ☐ The answer is correct, but the work doesn't prove it. (Explain in the next box→) ☐ The answer is incorrect. (Explain in the next box→)	

6. Expand $6\left(-4\frac{1}{2}x + 8\right)$.

$$6\left(-4\frac{1}{2}x\right) + 6(8)$$

$$\boxed{-27x + 48}$$

Check one of the following:	Explanation
☐ The answer is correct and the work proves the answer is correct. ☐ The answer is correct, but the work doesn't prove it. (Explain in the next box→) ☐ The answer is incorrect. (Explain in the next box→)	

Critiquing Operations on Expressions

ANSWER KEY

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1. Simplify $4x - 2 + (-2x) + 7$.

$4x - 2 - 2x + 9$

$(4x - 2x) - (2 + 7)$

$\boxed{2x - 9}$

$4x - 2 + (-2x) + 7$
$4x + (-2x) - 2 + 7$

$2x + 5$

Check one of the following:	Explanation
☐ The answer is correct and the work proves the answer is correct. ☐ The answer is correct, but the work doesn't prove it. (Explain in the next box→) ☐ The answer is incorrect. (Explain in the next box→)	The student incorrectly combined (-2) and 7. He/she added 2 and 7 to get 9, instead of (-2) and 7 to get 5.

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2. Simplify $(11.5x - 6) + (-2x + 3)$.

$11.5x - 2x + 6 + 3$

$\boxed{9.5x - 3}$

$11.5x - 6 + (-2x) + 3$
$11.5x + (-2x) - 6 + 3$

$9.5x - 3$

Check one of the following:	Explanation
☐ The answer is correct and the work proves the answer is correct. ☐ The answer is correct, but the work doesn't prove it. (Explain in the next box→) ☐ The answer is incorrect. (Explain in the next box→)	In the student's work, he/she shows a PLUS 6 when it should be a MINUS 6.

3. Find the perimeter of the rectangle with sides $(2.9x + 1)$ and 4x.
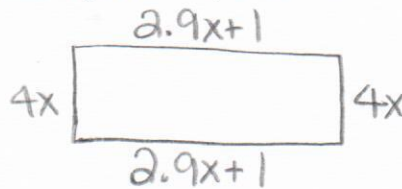
$2(2.9x+1) + 4x$

$2(2.9x) + 2(1) + 4x$

$4.58x + 2 + 4x$

$4.58x + 4x + 2$

$\boxed{8.58x + 2}$

2.9x+1

4x   4x

2.9x+1

$2(2.9x + 1) + 2(4x)$
$2(2.9x) + 2(1) + 2(4x)$
$4.58x + 2 + 8x$
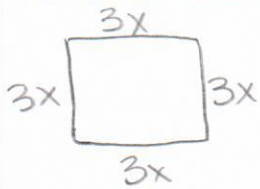$4.58x + 8x + 2$

$12.58x + 2$

Check one of the following:
☐ The answer is correct and the work proves the answer is correct.
☐ The answer is correct, but the work doesn't prove it. (Explain in the next box→)
☐ The answer is incorrect. (Explain in the next box→)

Explanation

The student did not correctly compute the perimeter of the rectangle. He/she only included one side with length $4x$.

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4. Find the area of the square with side $3x$.

3x

3x   3x

3x

$4(3x)$

$\boxed{12x}$

$(3x) \cdot (3x)$

$9x^2$

Check one of the following:
☐ The answer is correct and the work proves the answer is correct.
☐ The answer is correct, but the work doesn't prove it. (Explain in the next box→)
☐ The answer is incorrect. (Explain in the next box→)

Explanation

The student did not correctly use the formula for area. Instead of multiplying the length of one by the length of another side, the student multiplied one side by 4 (ultimately finding the perimeter instead of area).

5. Simplify $2[3 - (x + 7)]$.

$2(3) - 2(x + 7)$

$6 - 2x + 14$

$6 + 14 - 2x$

$\boxed{20 - 2x}$

$2(3) - 2(x + 7)$
$2(3) - 2(x) - 2(7)$
$6 - 2x - 14$
$6 - 14 - 2x$

$-8 - 2x$

Check one of the following:
☐ The answer is correct and the work proves the answer is correct.
☐ The answer is correct, but the work doesn't prove it. (Explain in the next box→)
☐ The answer is incorrect. (Explain in the next box→)

Explanation

The student did not correctly distribute the (-2) within the parenthesis. He/she calculated a POSTIVE 14 instead of a NEGATIVE 14.

6. Expand $6\left(-4\frac{1}{2}x + 8\right)$.

$6\left(-4\frac{1}{2}x\right) + 6(8)$

$\boxed{-27x + 48}$

$6\left(-4\frac{1}{2}x + 8\right)$
$6\left(-4\frac{1}{2}x\right) + 6(8)$

$-27x + 48$

Check one of the following:
☐ The answer is correct and the work proves the answer is correct.
☐ The answer is correct, but the work doesn't prove it. (Explain in the next box→)
☐ The answer is incorrect. (Explain in the next box→)

Explanation