

Expressions

| Simplify. Justify by indicating the property used at each step. | | Evaluate. | |
|---|----------------------|------------------|-----------------------------------|
| 1. | $-3 + 2(x - 4) - 5x$ | Justification: | 2. $-2(x^2 + 1) + 6x$ for $x = 5$ |

Equations

| Solve. Justify by indicating the property used at each step. | | | |
|--|-----------------|----------------|----------------------------|
| 3. | $-9x + 18 = 23$ | Justification: | 4. $\frac{5}{4}y - 3 = -8$ |
| | | | Justification: |

Answer the questions completely

| | | | | | |
|----|--------------------|------------------------|----|--|--------------------------|
| 5. | $-2(5 - x^2) = 22$ | Is $x = 4$ a solution? | 6. | $-\left(\frac{x}{5} - 6\right) + 1 = -8$ | Is $x = -15$ a solution? |
| | | How do you know? | | | How do you know? |


In each case, a mistake has been made. Find and explain what the mistake was.

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|----|--|----|--|----|---|
| 7. | $4 + 2(x - 3) - 5x = 8$ $4 + 2x - 3 - 5x = 8$ | 8. | $4 + 2(x - 3) - 5x = 8$ $6(x - 3) - 5x = 8$ | 9. | $4 + 2(x - 3) - 5x = 8$ $4 + 2x - 6 - 5x = 8$ $-5x = 8$ |
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Inequalities

| | Solve. | Label the number line and indicate the solution(s): | Is -7 a solution? Explain how you know. |
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| 10. | $-x - 11 > -3$ | | |

Absolute Value

| | Solve. | | Solve and Graph the Solution |
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| 11. | $-2 x+3 -5 = -19$ | 12. | $-2 x+3 \leq -10$  |

Application

| Answer the questions completely. | |
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| 13. | <p>Jennifer is creating a rectangular plot of grass in her backyard. She would like the length of the plot to be 3 feet less than the width. Draw a picture of the situation.</p> <p>Using the variable w for width, express the <i>perimeter</i> of the plot as an <i>inequality</i> if he would like the perimeter to be greater than 72 feet.</p> |
| 14. | <p>Dan has \$400 in his account and he wants to rent a tractor to work on his field. The upfront cost is \$60 and \$40 for each day of rental. Create an equation to describe how many days he can rent the tractor.</p> <p>Transform your equation for the number of rental days Dan into an equivalent equation.</p> <p>How many days can Dan rent a tractor for his \$400?</p> |

Essential Question

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| | Write a Big Idea response for the Essential Question. Include vocabulary terms you have learned. Your responses will be evaluated using the Big Ideas Scoring Guide. |
| 15. | How can we represent real world situations in multiple ways? |