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CMIC 1 Final Exam - Algebra Manipulation Review (Unit 3)

1. Solve each equation or inequality. Show your work for full credit.

 a. 50 = 5x + 10 b. 70 – 1.3x = 210 c. 10 – 2x > 40

 d. 3x + 5 = 5x – 7 e. 3(x – 5) < 2(3x + 7) f. 3 = 2 – (x + 5)

1. Write each of the following in the shortest form possible.

 a. 3x + 5 – 2x + 4x – 8 b. 4 – (3x + 6) c. 3(2x + 5) – 8

 d. $\frac{3x+6}{2}$ e. 23 – 9x + 5(x – 6) f. 4x + 3y + 6xy + 6

1. Match the equivalent rules:

|  |  |
| --- | --- |
| A. -2(3x – 7) | I. 5x + 14 |
| B. 2(3x – 7) | II. 6x - 14 |
| C. 6x - x + 15 – 1 | III. -6x + 14 |
| D. 5x – (3x + 1) | IV. 7x - 14 |
| E. 6x + 1x – 20 + 7 | V. 2x - 1 |

1. Write the rules to model the following situations (both y = form and NEXT…NOW).
2. Tamara charges $6 per hour to clean windows. She also receives $3 on each job for transportation. Write the rules that relate the hours worked to total pay.
3. A cable TV company charges #30 for basic installation plus #5 for each additional television it hooks up. Write the rules that relate total number of TV’s hooked up to total cost.
4. A small accounting firm wants to subscribe to a nationwide database service. The service charges a monthly fee of $50 plus $15 per hour access fee. Write the rules that relate the hours used to total fee.