

Pattern and Relations 6

Name: _____

21. When $x^2 - 9x - 4$ is subtracted from the sum of $5x^2 - 8x + 2$ and $2x^2 - 3x - 7$, the result is
- A. $x^2 - 20x - 9$
 - B. $2x^2 + 4x + 13$
 - C. $6x^2 - 2x - 1$
 - D. $8x^2 - 20x - 9$

Use the following information to answer question 27.

Jim simplifies the expression $\frac{5(x + 2) - (8 - x)}{2}$ as shown below.

Step 1 $\frac{5x + 10 - 8 - x}{2}$

Step 2 $\frac{4x + 2}{2}$

Step 3 $\frac{4x}{2} + \frac{2}{2}$

Step 4 $2x + 1$

27. In which step did Jim make an error when simplifying the expression?
- A. Step 1
 - B. Step 2
 - C. Step 3
 - D. Step 4

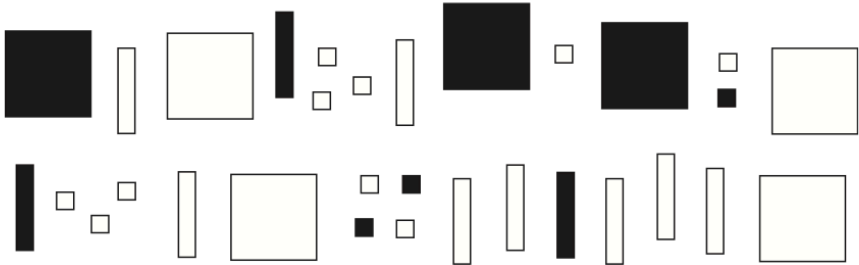
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Use the following information to answer question 29.

Legend

■ = 1	▬ = x	■ = x^2
□ = -1	▬ = $-x$	□ = $-x^2$



29. Which of the following polynomial expressions could be added to the expression shown above to result in a sum that contains only a constant term?
- A. $x^2 + 5x + 3$
 B. $4x^2 + 8x$
 C. $-x^2 - 5x - 3$
 D. $-4x^2 - 8x$
26. When the expression $(x^2 - 5x + 4) - (3x^2 + 8x - 20)$ is simplified, the result is
- A. $-2x^2 - 13x + 24$
 B. $-2x^2 - 3x + 16$
 C. $2x^2 + 13x - 24$
 D. $2x^2 + 3x - 16$

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Use the following information to answer question 29.

Legend		
■ = 1	▮ = x	■ = x^2
□ = -1	▯ = $-x$	□ = $-x^2$

29. Which of the following pairs of expressions represents like terms?

A. $3x$ and ■■ ■

B. $-6x^2$ and □□□□

C. $-2(4x)$ and ■■■■■

D. $4(-1x)$ and ■■■ ■■■

Use the following information to answer question 36.

Legend		
■ = 1	▮ = x	■ = x^2
□ = -1	▯ = $-x$	□ = $-x^2$

Polynomial 1: ■■ □ ▮ ▮ ▮ ▮ □ □

Polynomial 2: ▮ ▮ ▮ ▮ ▮ □ □ □ □

Polynomial 3: ■■ ▮ ▮ ▮ □ ■■ □

Polynomial 4: ?

36. Which of the following expressions could represent Polynomial 4 if the sum of all four expressions is $6x$?

A. $9x^2 - 5x - 1$

B. $3x^2 + x - 2$

C. $-x^2 - x + 5$

D. $-3x^2 + 11x + 1$