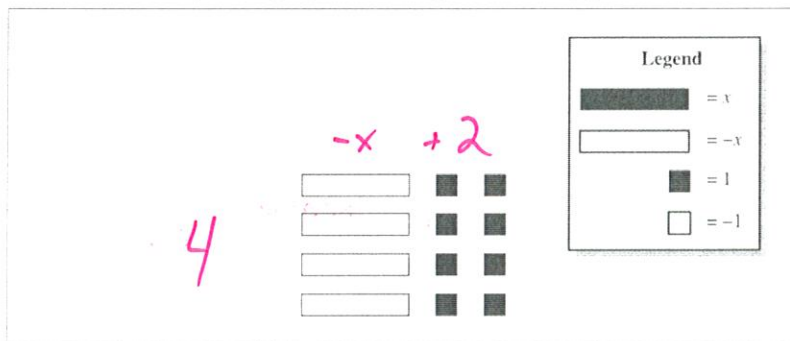


Pattern and Relation 7

Name: _____

Use the following algebra-tile diagram to answer question 9.



9. The algebra tile model above could represent the product of

- A. 2 and $(2x + 4)$
- B. 2 and $(2x - 4)$
- C. 4 and $(-x - 2)$
- D.** 4 and $(-x + 2)$

Use the following information to answer question 3.

Two students, Robert and Jacob, simplify the expression $3(x^2 + 4x - 1) - (2x + 5)$, as shown below.

	Robert	Jacob
Step 1	$= 3x^2 + 12x - 3 - (2x + 5)$	$= 3x^2 + 12x - 1 - (2x + 5)$
Step 2	$= 3x^2 + 12x - 3 - 2x + 5$	$= 3x^2 + 12x - 1 - 2x - 5$
Step 3	$= 3x^2 + 10x + 2$	$= 3x^2 + 10x - 6$

3. The first error made in the simplification of the expression shown above was made by

- A. Robert in Step 1
- B.** Jacob in Step 1
- C. Robert in Step 2
- D. Jacob in Step 2

Pattern and Relation 7

Name: _____

Use the following information to answer question 39.

Legend

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

39. Which of the following polynomials represents the unknown expression in the model shown above?

- A. $x^2 - 5x$
- B. $-x^2 + 5x$
- C. $x - 5$
- D. $-x + 5$**

Numerical Response

9. The quotient of $(-12x^2 - 9x) \div \blacksquare x$ is $-4x - 3$. What is the value of \blacksquare ?

Answer: 3

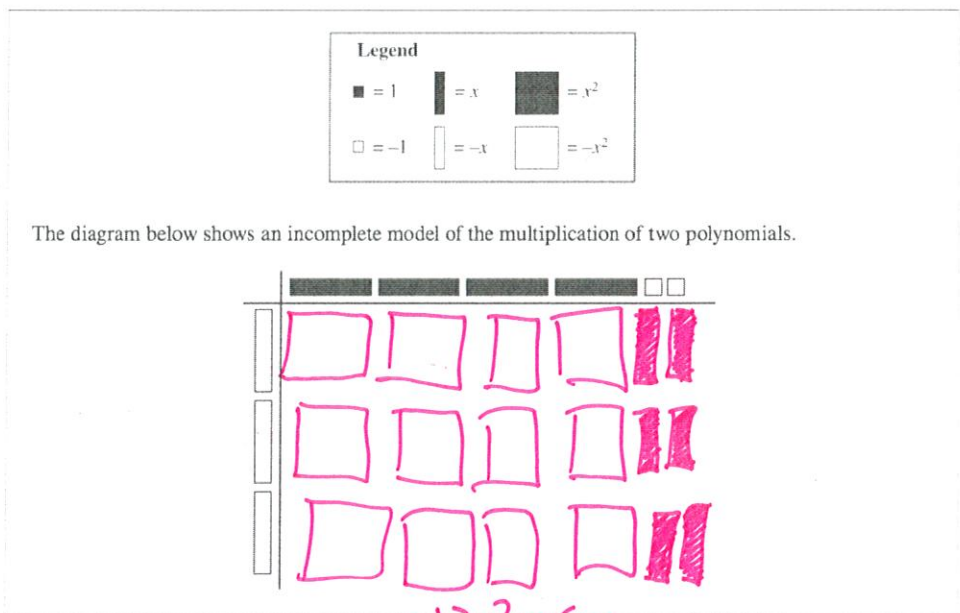
(Record your answer in the numerical-response section on the answer sheet.)

$$\begin{array}{r}
 3x \overline{) \begin{array}{|l} -12x^2 \\ -9x \end{array}} \\
 \underline{-4x \quad -3} \\

 \end{array}$$

Pattern and Relation 7

Name: _____



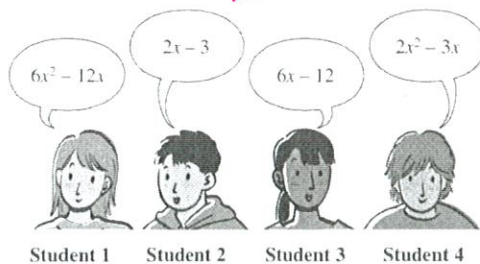
24. What is the coefficient on the x -term in the product?

- A. -12
- B. 12
- C. -6
- D. 6**

$-12x^2 + 6x$
 \uparrow
 $x\text{-term}$

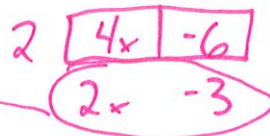
Use the following information to answer question 16.

Four students simplified the expression $\frac{3x(4x-6)}{2(3x)}$. Their answers are shown below.



16. Which student correctly simplified the expression?

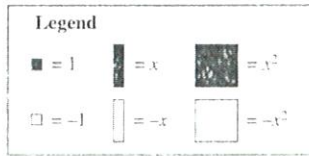
- A. Student 1
- B. Student 2**
- C. Student 3
- D. Student 4



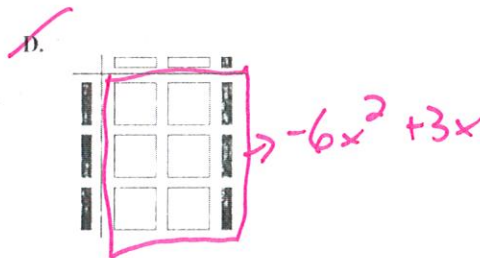
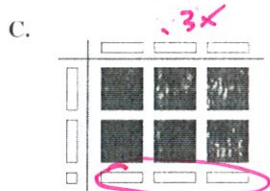
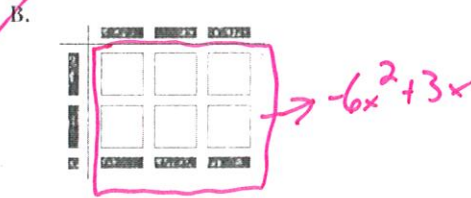
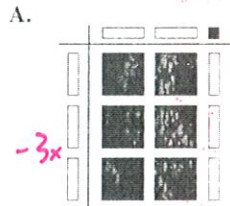
Pattern and Relation 7

Name: _____

Use the following information to answer question 19.



19. Which of the following models could be used to represent the division of $6x^2 - 3x$ by $-3x$?



these terms would need to be shaded