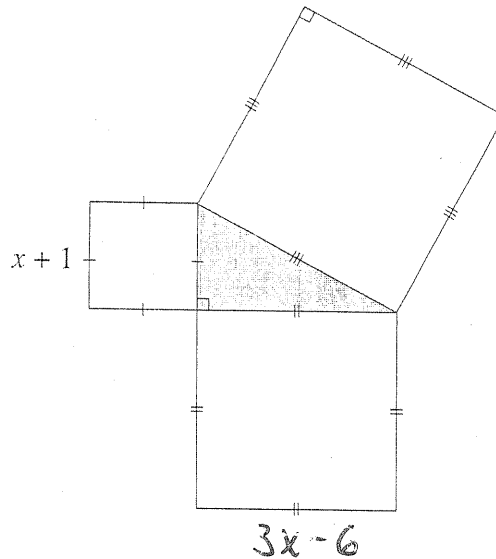


Name: \_\_\_\_\_

## Poly Provincial Final

Try your best on the following questions. Remember everything is worth 1 point as that's how it'll be later in the year. Good luck and God bless.

1. Determine the expression for the area of the largest square in the diagram below.



- A.  $14x^2 + 25$   
B.  $14x^2 - 20x - 25$   
C.  $10x^2 - 34x + 37$   
D.  $10x^2 - 38x + 36$
2. When  $(4x^2 - 36)$  is factored, how many factors are their?  
A. 2  
B. 3  
C. 4  
D. 5
3. Numerical response: What is a value for 'k' that makes the following polynomial factorable. Write you answer here \_\_\_\_\_.

$$2x^2 - kx - 7$$

Name: \_\_\_\_\_

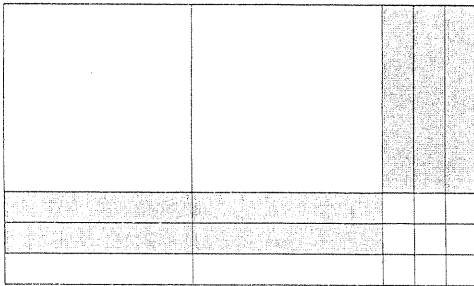
4. When factoring  $x^2 + 10x + 24$  to the form  $(x + a)(x + b)$ , which of the following is true?

- i.  $Ab = 10$        $a + b = 14$
- ii.  $Ab = 24$        $a + b = 10$
- iii.  $A > 0, B > 0$
- iv.  $A < 0, B < 0$

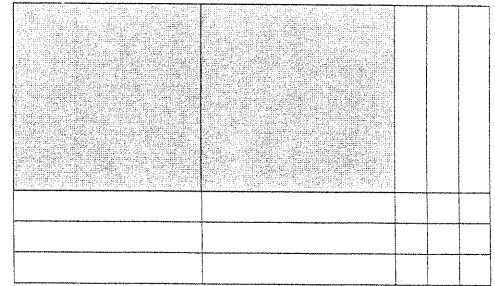
- a. i and ii
- b. ii and iii
- c. i and iv
- d. ii and iv

5. Which of the following areas formed by math tiles is factorable?

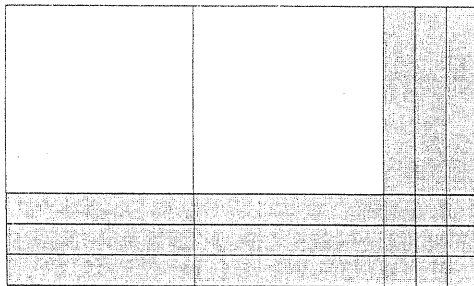
A.



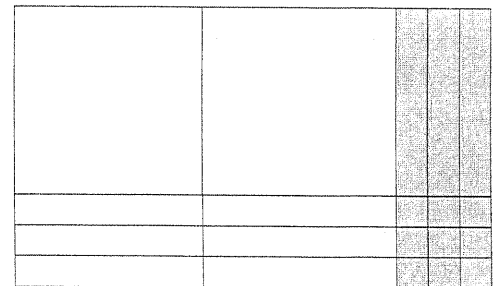
B.



C.

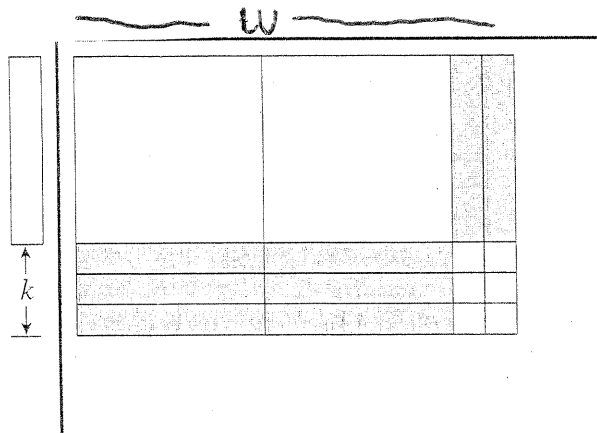


D.



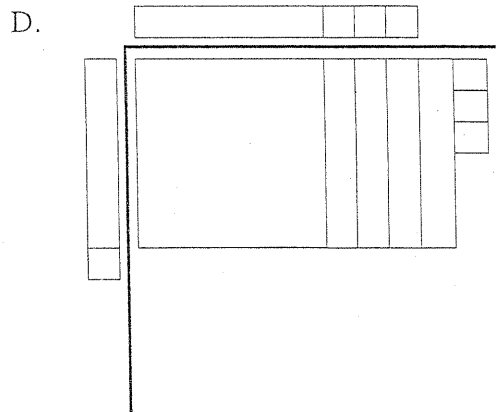
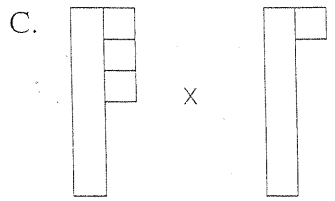
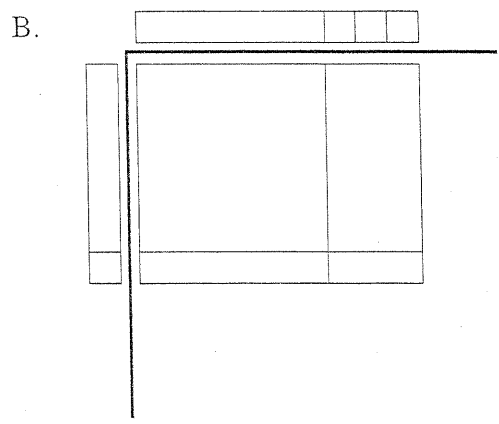
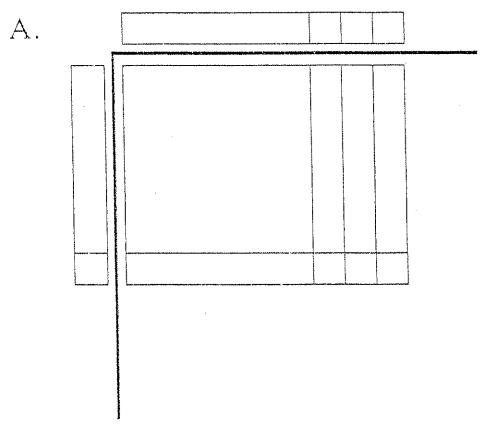
Name: \_\_\_\_\_

6. Determine the missing tiles, labelled 'w', in the model below.



- A.
- B.
- C.
- D.

7. Which diagram represents the expansion of  $(x+3)(x+1)$  pictorially?



Name: \_\_\_\_\_

8. Jimmy simplified the expression  $(x + b)(x + c)$ , where  $b$  and  $c$  are greater than 0, in the form  $x^2 + gx + k$ . What has to be true about  $g$  and  $k$ ?

- a.  $G < 0, K > 0$
- b.  $G < 0, K < 0$
- c.  $G > 0, K > 0$
- d.  $G > 0, K < 0$

9. Factor  $y^2 - 81$

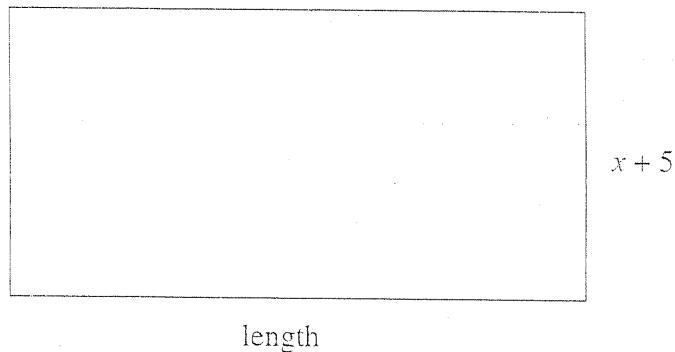
- a.  $(y - 9)^2$
- b.  $(y + 9)^2$
- c.  $(y - 9)(y + 9)$
- d.  $(Y + 81)^2$

10. Which of the following expressions have a factor  $x + 2$  ?

- i.  $X^2 - 4$
- ii.  $2x^2 - x - 10$
- iii.  $5x + 10$

- A. i only
- B. iii only
- C. i and iii only
- D. i, ii and iii

11. Given that the area of the rectangle below is  $2x^2 + 9x - 5$ , determine the length of the rectangle.



- a.  $2x - 1$
- b.  $2x + 1$
- c.  $2x + 9$
- d.  $2x^2 + 8x - 10$

Name: \_\_\_\_\_

12. Numerical response: Please write your answer here \_\_\_\_\_.

How many integer values are there for 'k' for  $4x^2 + kxy - 9y^2$

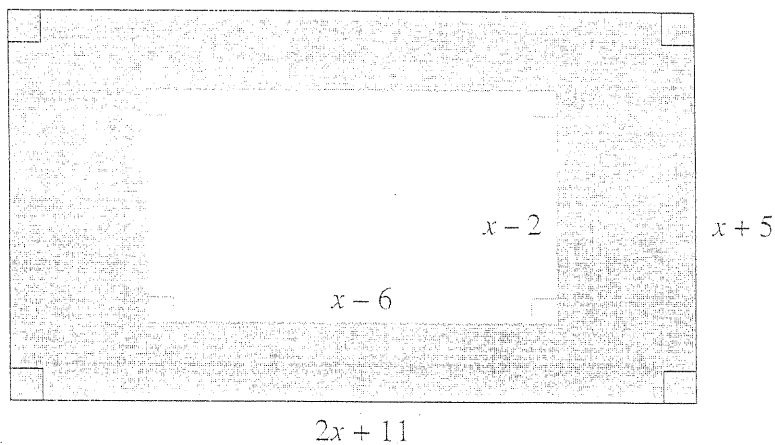
13. What is the least common factor of 18 and 24?

- a. 1
- b. 2
- c. 6
- d. 8

14. Expand and simplify:  $(4x - 3)^2$

- a.  $16x^2 + 9$
- b.  $16x^2 - 12x + 9$
- c.  $16x^2 - 24x - 9$
- d.  $16x^2 - 24x + 9$

15. Determine an expression to represent the shaded area below: show work



Name: \_\_\_\_\_

16. Determine the greatest common factor of  $12x^5y$ ,  $4x^3y^2$  and  $6x^2y^4$

For the last question please show all your work for full marks.

$$A = \pi r^2$$

17. A circular pool has a radius of  $2x$ . A bigger pool underneath a radius of  $3m$  more. What is the area of the bigger pool?