

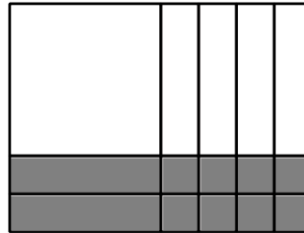
Part I: Multiple Choice. Write the correct answer in the space provided at the end of this section.

1. What is the greatest common factor for the following binomial $4x^2y + 10xy^2$

(A) $2xy$
(B) $2xy^2$
(C) $4xy$
(D) $4xy^2$

2. A polynomial is represented by the tiles shown below. What are the factors of the polynomial? Shaded tiles are negative.

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



3. Factor completely: $3x^2 - 6x^3$.

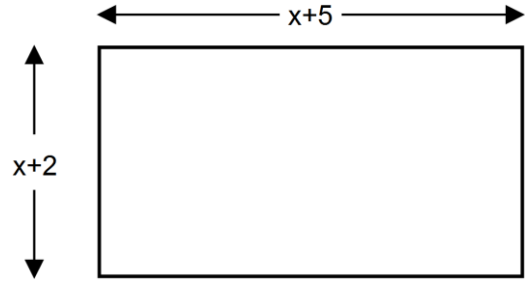
(A) $x(3x - 6x^2)$
(B) $3(x - 2x^2)$
(C) $x^2(3 - 6x)$
(D) $3x^2(1 - 2x)$

4. Expand: $(2x - 5)^2$

(A) $4x^2 - 25$
(B) $4x^2 - 10x + 25$
(C) $4x^2 - 20x + 25$
(D) $4x^2 + 20x + 25$

5. What is the area of the following rectangle?

- (A) $x^2 + 7$
- (B) $x^2 + 10$
- (C) $x^2 + 7x + 7$
- (D) $x^2 + 7x + 10$



6. Factor: $x^2 - x - 42$.

- (A) $(x - 7)(x - 6)$
- (B) $(x - 7)(x + 6)$
- (C) $(x + 7)(x - 6)$
- (D) $(x + 7)(x + 6)$

7. Factor: $16x^2 - 49$

- (A) $(8x - 7)(8x - 7)$
- (B) $(4x - 7)(4x - 7)$
- (C) $(4x - 7)(4x + 7)$
- (D) $(8x - 7)(8x + 7)$

8. Factor: $3x^2 + 3x - 6$

- (A) $(x - 1)(x + 2)$
- (B) $(3x - 3)(3x + 6)$
- (C) $3(x - 1)(x + 2)$
- (D) $3(x^2 + x - 2)$

9. What value for b makes the following polynomial a Perfect Square Trinomial?

$$25x^2 + bxy + 36y^2$$

- (A) 5
- (B) 6
- (C) 30
- (D) 60

10. Which represents $(x - 6)(3x + 1)$?

(A)

| | |
|--------|--------|
| $3x^2$ | $-18x$ |
| x | 6 |

(B)

| | |
|--------|--------|
| $3x^2$ | $-18x$ |
| x | -6 |

(C)

| | |
|--------|-------|
| $3x^2$ | $18x$ |
| $-x$ | -6 |

(D)

| | |
|--------|-------|
| $3x^2$ | $18x$ |
| $-x$ | 6 |

Answers to multiple choice.

1.____ 2.____ 3.____ 4.____ 5.____

6.____ 7.____ 8.____ 9.____ 10.____

25 **Part II: Constructed Response. Answer each question in the space provided.**
Show all workings.

3 11. Expand and simplify.

(A) $6(x - 5)(3x + 2)$

3 (B) $(3x - 4)(2x^2 - 5x + 7)$

12. Factor fully each of the following expressions:

2 (A) $x^2 - 2x - 24$

3 (B) $4x^2 - 5x - 6$

3 (C) $6x^2 + 5xy - 6y^2$

3 (D) $125x^2 - 80y^2$

2 (E) $121x^2 - 264x + 144$

2 (F) $16x^2y^3 - 8x^3y^2 + 12x^2y^2 - 4xy$

4 13. Determine the area of the shaded region for the following diagram.

