



7. Which of the following expressions is equivalent to

$$(x+5)(x-5)+(x+2)(x-2)$$

- (1)  $2x^2 - 29$                       (3)  $x^2 - 3x - 50$   
(2)  $x^2 + 50$                       (4)  $2x^2 - 13x + 29$
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8. Which of the following is the greatest common factor of the monomials  $10x^2y^5$  and  $15xy^3$ ?

- (1)  $5xy$                               (3)  $25x^3y^8$   
(2)  $25x^2y^{15}$                       (4)  $5xy^3$
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9. Which of the following shows the binomial  $10x^3 + 40x$  factored incorrectly?

- (1)  $10(x^3 + 4x)$                       (3)  $10x(x^2 + 4)$   
(2)  $5x^2(2x + 8)$                       (4)  $5x(2x^2 + 8)$
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10. Which of the following is *not* a factor of the binomial  $7x^2 - 28x$ ?

- (1)  $x - 4$                               (3)  $7$   
(2)  $x$                                       (4)  $-4$
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11. The binomial  $x^2 - 64$  can be written equivalently as

- (1)  $(x-8)(x-8)$                       (3)  $(x-4)(x+16)$   
(2)  $(x+8)(x-8)$                       (4)  $(x+4)(x-16)$
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12. The trinomial  $2x^2 - 3x - 20$  can be factored as the product of  $x - 4$  and which of the following binomials?

- (1)  $2x + 5$                               (3)  $x - 5$   
(2)  $2x - 7$                               (4)  $x + 5$
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### Free Response Questions

13. Find the difference when the polynomial  $-5x^2 + 3x + 8$  is subtracted from the polynomial  $2x^2 + 4x + 1$ .

14. Consider the product of  $(x+2)(x+3)$

(a) Write this product in simplest trinomial form.

(b) Test the equivalency of your expression in part (a) with the value  $x = 4$ .

15. Write the product below in standard polynomial form. Show the steps that you use in simplifying the product.

$$(x+8)(x-3)(2x+1)$$

16. Completely factor each of the following expressions.

(a)  $x^2 - 16$

(b)  $3x^3 - 75x$

(c)  $x^2 + 8x + 16$

(d)  $9x^2 - 64$

(e)  $x^2 - 12x - 28$

(f)  $x^2 - 10x + 25$