1. Factor the expression completely. $6x^3 - 4x^2 - 16x$

A. O
B. $2x(3x^2 - 2x - 8)$
C. $2x(3x+4)(x - 2)$
D. $4x(2x+1)(x - 4)$

2. If $x^2 - x - 6 = 0$, then x is

   A. -2 or 3
   B. -1 or 6
   C. 1 or -6
   D. 2 or -3

3. $(5a + 6)^2 =$

   A. $25a^2 + 36$
   B. $25a^2 - 36$
   C. $25a^2 + 30a + 36$
   D. $25a^2 + 60a + 36$

4. Factor the expression completely. $2x^2 + 4x - 16$

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

5. $(3x^2 - 5x - 6) + (5x^2 + 4x + 4) =$

A. $8x^2 + x - 2$
B. $2x^2 - x - 2$
C. $8x^2 - x - 2$
D. $2x^2 + x + 2$

6. $(3x^2 - 5x - 6) - (5x^2 + 4x + 4) =$

A. $-2x^2 - 9x - 10$
B. $2x^2 + 9x + 10$
C. $-2x^2 - 9x - 2$
D. $2x^2 + 9x - 2$

7. $\dfrac{8x^6 + 8x^4}{2x^2} =$

A. $8x^{12}$
B. $8x^5$
C. $4x^4 + 4x^2$
D. $4x^3 + 2x^2$

8. If $x>2$, then $\dfrac{x^2 - x - 6}{x^2 - 4} =$

A. $x + 3$
B. $x + 2$
C. $\dfrac{x+3}{x+2}$
D. $\dfrac{x-3}{x-2}$

9. What is the smallest value of x that satisfies this equation $x(x+4) = -3$

A. -1
B. 0
C. 1
D. -3

10. If $2x^2 + 6x = 36$, what are the possible values of x?

A. -12 and 3
B. -6 and 3
C. -3 and 6
D. -3 and 12

11. What polynomial can be added to $x^2 - 2x+6$ so that the sum is $3x^2 + 7x$?

A. $4x^2 + 5x + 6$
B. $3x^2 + 9x + 6$
C. $2x^2 + 9x - 6$
D. $2x^2 - 9x - 6$

2.Which of the following is the factored form of the expression $5x^2 - 13x-6$?

A. $(x-3)(5x+ 2)$
B. $(x+3)(5x+ 2)$
C. $(x-3)(x +2)$
D. $(x+3)(x+2)$

Answers:

1. C
2. A
3. D
4. B
5. C
6. A
7. C
8. D
9. D
10. B
11. C
12. A