

Chapter 8 Test, Form 2A

SCORE _____

Write the letter for the correct answer in the blank at the right of each question.

1. Write $4x^3 - 6x + 2x^5 + 3$ in standard form.
A $3 - 6x + 4x^3 + 2x^5$ **C** $2x^5 + 4x^3 - 6x + 3$
B $4x^3 + 3 + 2x^5 - 6x$ **D** $-6x + 4x^3 + 3 + 2x^5$ 1. _____ **C**

2. Find $(9t^2 + 4t - 6) - (t^2 - 2t + 4)$.
F $8t^2 + 6t - 10$ **G** $8t^2 + 2t - 2$ **H** $9t^2 + 6t - 2$ **J** $9t^2 + 6t - 10$ 2. _____ **F**

3. Simplify $2a^2(5a - 6) - 5a(a^2 - 3a + 4) - 7(a - 5)$.
A $5a^3 + 3a^2 - 27a + 35$ **C** $5a^3 - 27a^2 + 13a - 35$
B $5a^3 - 10a - 7$ **D** none of these 3. _____ **A**

4. Factor $24x^2y - 66xy^2 + 54x^2y^2$ completely.
F $2xy(12x - 33y + 27xy)$ **H** $(4x^2 + 6y)(6x - 9y^2)$
G $6x^2y^2(4y - 11x + 9)$ **J** $6xy(4x - 11y + 9xy)$ 4. _____ **J**

5. Each side of a square x units long is decreased by 9 units. Which expression represents the area of the new square in square units?
A $x^2 - 81$ **C** $x^2 - 18x + 81$
B $x^2 - 18x + 18$ **D** $2x - 18$ 5. _____ **C**

6. Solve $(3w + 4)(2w - 7) = 0$.
F $\left\{-\frac{3}{4}, \frac{2}{7}\right\}$ **G** $\left\{\frac{3}{4}, -\frac{2}{7}\right\}$ **H** $\left\{-\frac{4}{3}, \frac{7}{2}\right\}$ **J** $\left\{\frac{4}{3}, -\frac{7}{2}\right\}$ 6. _____ **H**

7. Factor $x^2 - 10x + 9$.
A $(x - 1)(x - 9)$ **C** $(x - 1)(x + 9)$
B $(x + 1)(x + 9)$ **D** $(x + 1)(x - 9)$ 7. _____ **A**

8. Find $(3y - 4)(2y^2 + y - 1)$.
F $6y^3 - 5y^2 - 7y - 4$ **H** $6y^3 - 5y^2 - 7y + 4$
G $6y^3 - 7y^2 - 7y + 4$ **J** $6y^3 - 5y^2 + 7y + 4$ 8. _____ **H**

9. Solve $y^2 = 13y - 42$.
A $\{-6, -7\}$ **B** $\{6, 7\}$ **C** $\{-6, 7\}$ **D** $\{6, -7\}$ 9. _____ **B**

10. Find $(4a^2 + b)^2$.
F $16a^4 + b^2$ **H** $8a^4 + b^2$
G $16a^4 + 8a^2b + b^2$ **J** $4a^4 + 8a^2b + b^2$ 10. _____ **G**

11. Factor $5x^2 - 13x + 6$.
A $(x + 3)(5x - 2)$ **C** $(x + 2)(5x + 3)$
B $(x - 2)(5x - 3)$ **D** $(x - 3)(5x + 2)$ 11. _____ **B**

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12. Solve $7x^2 - 20x = 3$.
F $\{-\frac{1}{7}, 3\}$ **G** $\{\frac{1}{7}, -3\}$ **H** $\{-\frac{1}{7}, -3\}$ **J** $\{\frac{1}{7}, 3\}$ 12. **F**
13. Factor $121r^2 - 64t^2$.
A $(11r + 8t)(11r - 8t)$ **C** $(11r + 8t)(11r + 8t)$
B $(11r - 8t)(11r - 8t)$ **D** prime 13. **A**
14. Solve $6(n - 11) = 12 + 4(2n - 3)$.
F -11 **G** 11 **H** -33 **J** 33 14. **H**
15. Solve $5x^2 - 3x = (7x^2 + 5x) - (2x^2 + 16)$.
A 2 **B** -2 **C** 8 **D** -8 15. **A**
16. Which binomial is a factor of $6x^2 + 48x + 96$?
F $x + 4$ **G** $3x + 8$ **H** $3x + 16$ **J** $6x + 16$ 16. **F**
17. If the area of a square is multiplied by nine, the area becomes 16 square inches. Find the length x of a side of the square.
A $\frac{16}{9}$ in. **B** $\frac{4}{3}$ in. **C** $\frac{3}{4}$ in. **D** $\frac{8}{3}$ in. 17. **B**
18. **SOCCER** Julian kicked a soccer ball into the air with an initial upward velocity of 40 feet per second. The height h in feet of the ball above the ground can be modeled by $h = -16t^2 + 40t$, where t is the time in seconds after Julian kicked the ball. Find the time it takes the ball to reach 25 feet above the ground.
F $2\frac{1}{2}$ s **G** $\frac{15}{16}$ s **H** $1\frac{1}{3}$ s **J** $1\frac{1}{4}$ s 18. **J**
19. The product of two consecutive odd integers is 143. Find their sum.
A -20 or 20 **B** -28 or 28 **C** -26 or 26 **D** -24 or 24 19. **D**
20. The length of a rectangle is twice the width. The area is 72 square centimeters. What is the length?
F 48 cm **G** 24 cm **H** 12 cm **J** 6 cm 20. **H**
- Bonus** Find the value of c that will make $9x^2 + 30x + c$ a perfect square trinomial. **B.** **25**