

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Factor when possible. If the polynomial is prime, say so.

- 1) $x^2 - x - 30$ 1) _____
 A) $(x + 1)(x - 30)$ B) $(x + 6)(x - 5)$ C) $(x + 5)(x - 6)$ D) prime
- 2) $45 - 14x + x^2$ 2) _____
 A) $(x + 5)(x - 9)$ B) $(x - 5)(x + 9)$ C) $(x - 5)(x - 9)$ D) $(x + 5)(x + 9)$
- 3) $u^2 - 3uv - 54v^2$ 3) _____
 A) $(u - 6v)(u + v)$ B) $(u + 6v)(u - 9v)$ C) $(u - 6v)(u + 9v)$ D) prime

Factor when possible. If the polynomial is prime, so state.

- 4) $4x^2 - 49$ 4) _____
 A) $(2x - 7)^2$ B) $(2x + 7)^2$ C) $(2x + 7)(2x - 7)$ D) prime
- 5) $81x^2 + 4y^2$ 5) _____
 A) $(9x - 2y)^2$ B) $(9x + 2y)^2$
 C) $(9x + 2y)(9x - 2y)$ D) prime

Factor.

- 6) $4x^4 + 11x^6$ 6) _____
 A) $4x^4\left(1 + \frac{11}{4}x^2\right)$ B) $x^4(1 + 11x^2)$ C) $4(x^4 + 44)$ D) $x^4(4 + 11x^2)$
- 7) $10m^4n - 25m^2n + 20mn$ 7) _____
 A) $5mn(2m^3 - 5m + 4)$ B) $2m^3 - 5m + 4$
 C) $5m(2m^3 - 5m + 4n)$ D) $(5mn - 5m)(2m^3 + 4)$

Factor completely.

- 8) $4x^6 - 16x^4$ 8) _____
 A) $4x^4(x - 2)^2$ B) $4x(x + 2)(x - 2)$
 C) $4x^4(x + 2)^2$ D) $4x^4(x + 2)(x - 2)$
- 9) $2x^2 - 12x + 2x^3$ 9) _____
 A) $(x - 2)(2x^2 + 6)$ B) $2x(x + 2)(x - 3)$ C) $(2x^2 + 4x)(x - 3)$ D) $2x(x - 2)(x + 3)$

Factor.

- 10) $w(z - 11) - 6(z - 11)$ 10) _____
 A) $(z - 11)(w - 6)$ B) $(z - 11)(w + 6)$
 C) $(wz - 11w) - (6z - 66)$ D) $6w(z - 11)$

11) $28x^3 + 8x^2 + 49x + 14$

A) $(4x^2 - 7)(7x - 2)$

C) $(4x^2 + 7)(7x + 2)$

B) $28x(7x^2 + 2x + 9)$

D) $(7x^2 - 7)(4x + 7)$

11) _____

Factor completely. If the polynomial is prime, so state.

12) $8x^2 + 17x - 21$

A) $(x + 3)(8x - 7)$

B) $(x - 3)(8x + 7)$

C) $(x - 7)(8x + 3)$

D) prime

12) _____

13) $10x^2 + 11x - 6$

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

B) $(2x + 3)(5x - 2)$

C) $(10x + 3)(x - 2)$

D) prime

13) _____

14) $6x^2 + 5xy - 6y^2$

A) $(2x - 3y)(3x + 2y)$

C) $(2x + 3y)(3x - 2y)$

B) $(6x + 3y)(x - 2y)$

D) prime

14) _____

15) $30x^3 - 63x^2 + 27x$

A) $x(5x - 3)(6x - 9)$

C) $3x(5x - 3)(2x - 3)$

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

D) $x(15x - 9)(2x - 3)$

15) _____

Factor the sum or difference of two cubes completely.

16) $64a^3 - 27b^3$

A) $(4a - 3b)(16a^2 + 9b^2)$

C) $(4a + 3b^2)(16a^2 - 12ab + 9b^2)$

B) $(64a - 3b)(a^2 + 12ab + 9b^2)$

D) $(4a - 3b)(16a^2 + 12ab + 9b^2)$

16) _____

Factor completely. If the polynomial is prime, so state.

17) $4x^2 - 3x + 7$

A) $(4x - 1)(x - 7)$

B) $(4x - 7)(x - 1)$

C) $(2x - 7)(2x - 1)$

D) prime

17) _____

Solve.

18) $x(5x + 13) = 6$

A) $x = \frac{2}{5}, -3$

B) $x = 0, \frac{13}{5}$

C) $x = 0, -\frac{13}{5}$

D) $x = \frac{5}{2}, 3$

18) _____

19) $4x^2 - 32x + 60 = 0$

A) $x = 4, 3, 5$

B) $x = 3, 5$

C) $x = 0, 3, 5$

D) $x = -3, -5$

19) _____

20) $x^3 + 6x^2 - x - 6 = 0$

A) $x = 36$

B) $x = 1, -6, 6$

C) $x = -1, 1, -6$

D) $x = -6, 6$

20) _____

21) $4x(x + 2) = (3x - 3)(x + 2)$

A) $x = 3$

B) $x = -3$

C) $x = -2, -3$

D) $x = 2, 3$

21) _____

Solve the problem.

22) The length of a rectangular storage room is 5 feet longer than its width. If the area of the room is 66 square feet, find its dimensions.

A) $w = 5$ ft, $l = 12$ ft

B) $w = 5$ ft, $l = 10$ ft

C) $w = 7$ ft, $l = 12$ ft

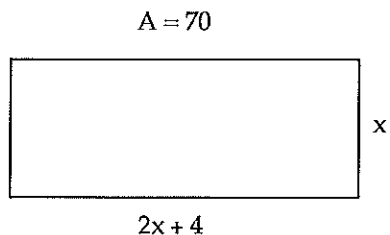
D) $w = 6$ ft, $l = 11$ ft

22) _____

23) If $h = -16t^2 + 192t$ represents the height of a firework, in feet, t seconds after it was fired, when will the firework be 576 feet high? 23) _____
A) 6 sec B) -6 sec C) 96 sec D) 36 sec

24) A manufacturer determines that the profit in dollars for manufacturing n units is $P = 2n^2 - 70n + 20$. (Assume that n is a positive integer) How many units are produced when the profit is \$420? 24) _____
A) 40 units B) 45 units C) 5 units D) 50 units

25) Use the given area to find the missing sides of the rectangle. 25) _____



- A) 5, 14 B) 14, 10 C) -7, -10 D) 5, 10

Answer Key

Testname: CHAPTER 8 TEST 2

- 1) C
- 2) C
- 3) B
- 4) C
- 5) D
- 6) D
- 7) A
- 8) D
- 9) D
- 10) A
- 11) C
- 12) A
- 13) B
- 14) C
- 15) C
- 16) D
- 17) D
- 18) A
- 19) B
- 20) C
- 21) C
- 22) D
- 23) A
- 24) A
- 25) A