Exam Chapter 8 practice test #1

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) $x^2 + 10x - 24$ 1) _____
A) $(x - 12)(x + 2)$ B) $(x - 12)(x + 1)$ C) $(x + 12)(x - 2)$ D) prime

2) $3x - 88 + x^2$ 2) _____
A) $(x + 11)(x - 8)$ B) $(x - 11)(x + 1)$ C) $(x - 11)(x + 8)$ D) prime

3) $x^2 + 15xy + 54y^2$ 3) _____
A) $(x - 9y)(x + 6y)$ B) $(x - 9y)(x + y)$ C) $(x + 9y)(x + 6y)$ D) prime

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

4) $z^2 - 144$ 4) _____
A) $(x + 12)^2$ B) $(z + 12)(z - 12)$ C) $(x - 12)^2$ D) prime

5) $81x^2 - 25y^2$ 5) _____
A) $(9x + 5y)(9x - 5y)$ B) $(9x + 5y)^2$
C) $(9x - 5y)^2$ D) prime

Factor.

6) $6x^7 + 48x^5$ 6) _____
A) $6x^5(x^2 + 8)$ B) $6(x^7 + 8x^5)$ C) $x^7(6x^2 + 48)$ D) $6x^6(x + 8x)$

7) $30x^4y + 42x^3y - 48xy$ 7) _____
A) $6x^3y(5 + 7x^2 - 8x)$ B) $6xy(5x^3 + 7x^2 - 8)$
C) $5x^3 + 7x^2 - 8$ D) $6xy(x^3 + x^2 - 8)$

Factor completely.

8) $ab^4 - 100a^3b^2$ 8) _____
A) $a(b^2 + 10ab)(b^2 - 10ab)$ B) $ab^2(b + 10a)(b - 10a)$
C) $ab^2(b - 10a)^2$ D) $ab^4 - 100a^3b^2$

9) $5x^2y - 10xy - 40y$ 9) _____
A) $5y(x - 4)(x - 2)$ B) $5y(x + 4)(x + 2)$ C) $5y(x + 4)(x - 2)$ D) $5y(x - 4)(x + 2)$

Factor.

10) $x(y + 2) + 7(y + 2)$ 10) _____
A) $7x(y + 2)$ B) $(xy + 2x) + (7y + 14)$
C) $2y(x + 7)$ D) $(y + 2)(x + 7)$

11) $5xy + 20x + 9y + 36$ 11) _____
A) $(5x + 4)(y + 9)$ B) $(5x + y)(9y + 4)$ C) $(5x + 9)(y + 4)$ D) $(5x + 9y)(y + 4)$

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

12) $3x^2 + 34x + 11$ 12) _____

A) $(3x - 1)(x - 11)$ B) $(3x + 1)(x + 11)$ C) $(3x + 11)(x + 1)$ D) prime

13) $10y^2 - 21y + 9$ 13) _____

A) $(2y + 3)(5y + 3)$ B) $(2y - 3)(5y - 3)$ C) $(10y + 3)(y + 3)$ D) prime

14) $6a^2 - 5ab - 4b^2$ 14) _____

A) $(6a + b)(a - 4b)$ B) $(2a - b)(3a + 4b)$

C) $(2a + b)(3a - 4b)$ D) prime

15) $-60x^3 + 136x^2 - 60x$ 15) _____

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

C) $x(5x - 3)(-12x + 20)$ D) $x(-20x + 12)(3x - 5)$

Factor the sum or difference of two cubes completely.

16) $7k^3 + 448$ 16) _____

A) $7(k - 4)(k^2 + 4k + 16)$ B) $7(k + 28)(k^2 - 28k + 112)$

C) $7(k + 4)(k^2 + 4k + 16)$ D) $7(k + 4)(k^2 - 4k + 16)$

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

17) $3x^2 + 19x + 20$ 17) _____

A) $(3x + 5)(x + 4)$ B) $(3x - 5)(x - 4)$ C) $(3x + 4)(x + 5)$ D) prime

Solve.

18) $6x(8x - 3) = 0$ 18) _____

A) $x = -\frac{3}{8}, 0$ B) $x = \frac{3}{8}, 0$ C) $x = \frac{3}{8}, \frac{1}{6}, 0$ D) $x = \frac{3}{8}, \frac{1}{6}$

19) $3x^2 - 4x - 7 = 0$ 19) _____

A) $x = \frac{3}{7}, 0$ B) $x = \frac{3}{7}, 1$ C) $x = \frac{3}{7}, -1$ D) $x = \frac{7}{3}, -1$

20) $5x^3 + 2x^2 = 20x + 8$ 20) _____

A) $x = -\frac{2}{5}, 2$ B) $x = -2, 2$ C) $x = -2, -\frac{2}{5}, 2$ D) $x = -\frac{2}{5}, 0$

21) $2 - 10x = (3x - 7)(x + 1)$ 21) _____

A) $x = -1, \frac{7}{3}$ B) $x = -1, 3$ C) $x = -3, 1$ D) $x = \frac{1}{5}$

Solve the problem.

22) The width of a rectangle is 6 kilometers less than twice its length. If its area is 108 square kilometers, find the dimensions of the rectangle. 22) _____

A) length = 9 km, width = 12 km B) length = 6 km, width = 6 km

C) length = 3 km, width = 36 km D) width = 9 km, length = 12 km

23) A window washer accidentally drops a bucket from the top of a 256-foot building. The height h of the bucket after t seconds is given by $h = -16t^2 + 256$. When will the bucket hit the ground? 23) _____

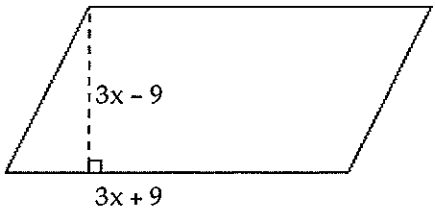
A) 64 sec B) -4 sec C) 16 sec D) 4 sec

24) If the cost, C(x), for manufacturing x units of a certain product is given by $C(x) = x^2 - 40x + 7700$, find the number of units manufactured at a cost of $8900. 24) _____

A) 110 units B) 60 units C) 70 units D) 20 units

25) Use the given area to find the dimensions of the quadrilateral. 25) _____

A = 243



A) base = 27, height = 9
B) base = -6, height = 12
C) base = 9, height = 9
D) base = 9, height = 27

Answer Key
Testname: CHAPTER 8 TEST 1

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