

MAT 095 MODULE B MOCK TEST

Name _____

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

Factor out the GCF from the polynomial.

- 1) $27y^3 - 6y^2 + 12y$ 1) _____
 A) $3y(9y^2 - 2y + 4)$ B) $3y(9y^3 - 2y^2 + 4y)$
 C) $3(9y^3 - 2y^2 + 4y)$ D) $y(27y^2 - 6y + 12)$

Factor the four-term polynomial by grouping.

- 2) $x^3 + 5x^2 + x + 5$ 2) _____
 A) $(x^2 + 1)$ B) $(5x^2 + 5)$ C) $(x^2 + 5)$ D) $(5x + 5)$

Factor the trinomial completely. If the polynomial cannot be factored, write "prime."

- 3) $x^2 - x - 40$ 3) _____
 A) $(x + 5)$ B) $(x - 40)$ C) $(x - 5)$ D) prime

- 4) $8y^2 + 48y + 64$ 4) _____
 A) $(y - 4)$ B) $(8y + 20)$ C) $(8y + 2)$ D) $8(y + 2)$

- 5) $5x^2 + 7x - 6$ 5) _____
 A) $(x + 2)$ B) $(5x + 6)$ C) $(x - 3)$ D) prime

- 6) $9x^2 + 6xy - 8y^2$ 6) _____
 A) $(9x + 4y)$ B) $(3x - 4y)$ C) $(3x + 4y)$ D) prime

Factor the binomial completely.

- 7) $9x^2 - 49$ 7) _____
 A) $(3x + 7)(3x - 7)$ B) $(3x + 7)^2$ C) $(3x - 7)^2$ D) prime

- 8) $64x^2 - 9y^2$ 8) _____
 A) $(8x + 3y)(8x - 3y)$ B) $(8x + 3y)^2$
 C) $(8x - 3y)^2$ D) prime

Solve the equation.

- 9) $(y - 7)(3y + 23) = 0$ 9) _____
 A) $-\frac{3}{23}, 7$ B) $-\frac{23}{3}, 7$ C) $-7, \frac{3}{23}$ D) $-7, \frac{23}{3}$

- 10) $x^2 - 8x = -7$ 10) _____
 A) $-1, -7$ B) $-1, 7$ C) $7, 1$ D) $-7, 7$

11) $4x^2 - 3x - 7 = 0$

A) $\frac{4}{7}, -1$

B) $\frac{7}{4}, -1$

C) $\frac{4}{7}, 0$

D) $\frac{4}{7}, 1$

11) _____

Solve.

12) The sum of a number and its square is 12. Find the number.

A) -3 or 4

B) 3 or -4

C) 3 or 4

D) -3 or -4

12) _____

13) Find the length of the shorter leg of a right triangle if the longer leg is 24 meters and the hypotenuse is 6 more than twice the shorter leg.

A) 17 m

B) 10 m

C) 9 m

D) 18 m

13) _____

Find the root. Assume that all variables represent positive numbers.

14) $\sqrt[3]{-64x^{12}y^{36}}$

A) $4x^4y^{12}$

B) $16x^4y^{12}$

C) $-4x^4y^{12}$

D) $-4x^6y^{18}$

14) _____

Simplify the radical. Assume that all variables represent positive numbers.

15) $\sqrt{175x^2y}$

A) $5xy^2\sqrt{7}$

B) $5xy\sqrt{7}$

C) $5x\sqrt{7y}$

D) $5x^2\sqrt{7y}$

15) _____

16) $\sqrt{\frac{8x^2y}{25}}$

A) $\frac{2x\sqrt{2y}}{5}$

B) $x\sqrt{\frac{8y}{5}}$

C) $\frac{2\sqrt{2x^2y}}{5}$

D) $4x\sqrt{2y}$

16) _____

Add or subtract by first simplifying each radical and then combining any like radicals. Assume that all variables represent positive numbers.

17) $\sqrt{3a} + 3\sqrt{12a} - 6\sqrt{75a}$

A) $-3\sqrt{3a}$

B) $-23\sqrt{3a}$

C) $-3\sqrt{90a}$

D) $-23\sqrt{90a}$

17) _____

Multiply and simplify. Assume that all variables represent positive real numbers.

18) $\sqrt{2}(\sqrt{50} + \sqrt{10})$

A) 20

B) $100 + 2\sqrt{5}$

C) $10 + 4\sqrt{5}$

D) $10 + 2\sqrt{5}$

18) _____

Rationalize the denominator and simplify. Assume that all variables represent positive real numbers.

19) $\frac{5}{\sqrt{7p}}$

A) $\frac{5\sqrt{7p}}{7p}$

B) $5\sqrt{7p}$

C) 54p

D) $\frac{25\sqrt{7p}}{7p}$

19) _____

Solve the equation.

20) $\sqrt{4x+9} + 6 = 10$

A) $\frac{4}{7}$

B) $\frac{7}{4}$

C) 28

D) No solution

20) _____

Answer Key

Testname: MODULE B MOCK TEST I

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