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College Mathematics

Assessment #2

A. Directions: Solve each equation. Make sure to SHOW ALL WORK.

(1) $2x + 4 - x = 4x - 5$

(2) $4(x - 12) = 8(x + 6)$

(3) $4(x - 2) + 2(x + 3) = 12$

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(4) $-[2x-(5x+2])=4(1-x)$

(5) $\frac{3x}{4}+\frac{5x}{2}=26$

(6) $\frac{x-8}{5}+\frac{8}{5}=\frac{-x}{6}$

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B. Directions: Find each sum or difference. Make sure to SHOW ALL WORK.

(7) $(3x^2 - 4x + 5) + (-2x^2 + 3x - 2)$

(8) $(3x^2 - 4x + 5) - (-2x^2 + 3x - 2)$

(9) $(12x^2 - 8x + 6) - (3x^2 - 2x + 4)$

(10) $5(2x^2 - 3x + 7) - 2(6x^2 - x + 12)$

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C. Directions: Find each product. SHOW ALL WORK.

(11) $(x + 3)(x - 8)$

(12) $(4x - 1)(7x + 2)$

(13) $(7x - 6)^2$

(14) $(x + 4)(12x^3 - 3x^2 + x + 1)$

(15) $(x + 2)(x + 6)(x + 10)$

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D. Directions: Factor each polynomial. SHOW ALL WORK.

(16) $x^2 - 2x - 15$

(17) $x^2 - 121$

(18) $6x^2 - 48x - 120$

(19) $3x^3 + 12x^2 + 9x$

(20) $24x^4 + 10x^3 - 4x^2$

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E. Directions: Find the distance between the two points and the coordinates of the midpoint od the line segment formed by the two points.

(21) $(3, 4)\ and\ (-2, 1)$

(22) $(3, 0)\ and\ (5, 1)$

(23) $(-3,\ 5)\ and\ (-1, 1)$

(24) $(0, 4)\ and\ (-3, 12)$

(25) $(8, 4)\ and\ (-7, 11)$

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F. Directions: Find the center and radius for each circle. SHOW ALL WORK.

(26) $(x-4)^2+(y-3)^2=25$

(27) $(x+3)^2+(y-2)^2=49$

(28) $(x+3)^2+(y+7)^2=169$

(29) $x^2+y^2+4x+6y+9=0$

(30) $x^2+y^2-2x+4y-4=0$

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G. Directions: For each equation, find the x-intercept and y-intercept. SHOW ALL WORK.

(31) $3x + 2y = 12$

(32) $5x + 6y = 15$

(33) $x + y = 1$

(34) $y = 3x + 9$

(35) $(y - 3) = 12(x + 2)$

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H. Directions: Write the equation for line (in any form) for the following points (SHOW ALL WORK):

(36) $(0, 4)\ and\ (-3, 12)$

(37) $(-2, 4)\ and\ (-1, 1)$

(38) $(2, 3)\ and\ (-4, -5)$

(39) $(1, 6)\ and\ (1, 8)$

(40) $(-4, 4)\ and\ (-3, 3)$