Henderson – Regents Review 6

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Name _____

1 The expression of $64 - x^4$ is equivalent to which other expression?

(1) $(8 - x^2)(8 - x^2)$ (3) $(x^2 - 8)(x^2 - 8)$

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

2 $6x^2 - 5x - 4$ is equivalent to:

(1) $(6x - 1)(x + 4)$ (3) $(x - 1)(6x - 4)$

(2) $(3x - 1)(2x - 4)$ (4) $(2x + 1)(3x - 4)$

3 What is the result when you subtract $3a^2 - 3a + 7$ from $2a^2 + 3a - 5$?

4 Which of the following equations is equivalent to $x^2 - 4x - 13 = 0$?

(1) $(x - 2)^2 = 13$ (3) $(x - 4)^2 = 13$

(2) $(x - 2)^2 = 17$ (4) $(x - 4)^2 = 17$

5 Given the polynomials P(x) and Q(x) below,

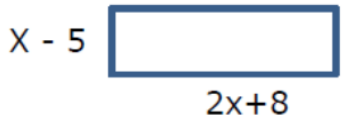
$P(x) = x^2 - x$
$Q(x) = x - 3$

$R(x) = P(x) \cdot Q(x)$ is equivalent to which of the following?

(1) $R(x) = x^3 + 2x^2 + 3x$ (3) $R(x) = x^3 - 2x^2 + 3x$

(2) $R(x) = x^3 - 4x^2 - 3x$ (4) $R(x) = x^3 - 4x^2 + 3x$

6 Find the area of the rectangle in simplest form:



7

x	y
4	48
5	75
6	108
7	147
8	192

Write a linear equation ($y = mx + b$), quadratic equation ($y = ax^2$), or an exponential equation ($y = a(b)^x$) function that models the data shown to the left.

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8 Identify the slope in the equation. $x - \frac{1}{2} = 3x - x + y$

monday

tuesday

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9 The equation $A = Prt$ relates the amount of money in an account, A, with the principal amount invested P, simple interest rate r, and length of the investment, t. Solve this literal equation for r.

10 If $x^2 + 2 = 6x$ is solved by completing the square, an intermediate step would be

(1) $(x+3)^2 = 7$ (3) $(x-3)^2 = 11$

(2) $(x-3)^2 = 7$ (4) $(x-6)^2 = 34$

11 Which ordered pair is *not* in the solution set of $y > -\frac{1}{2}x + 5$ and $y \leq 3x - 2$?

(1) (5, 3) (2) (4, 3)

(3) (3, 4) (4) (4, 4)

12 Solve $8m^2 + 20m = 12$ for m by factoring

13 Write the equation $y = x^2 - 10x + 4$ in vertex form.

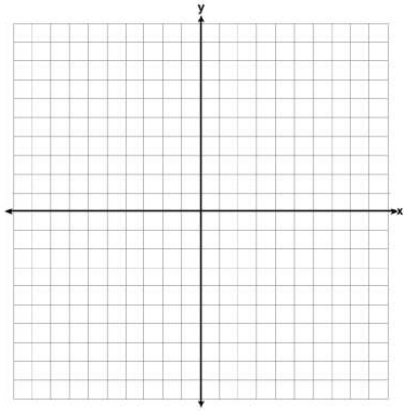
14 If the quadratic formula is used to find the roots of the equation, $x^2 - 6x - 19$ the correct roots are

(1) $3 \pm 2\sqrt{7}$ (3) $3 \pm 4\sqrt{14}$

(2) $-3 \pm 2\sqrt{7}$ (4) $-3 \pm 4\sqrt{14}$

15 What is the larger root of the equation $x^2 - 10x + 21 = 0$

16 On the set of axes below, solve the following system of inequalities graphically. State the coordinates of a point in the solution set.



$y < 2x + 1$

$y \geq -\frac{1}{3}x + 4$

wednesday **thursday**