Lorie Hughes' Math 1010 Chapters 3&4 Test

Please DO NOT write on this test. Work each problem carefully then place your answer on the bubble sheet provided.
I know you can do a good job! Just take your time and Have fun!

Decide whether or not the ordered pair is a solution to the equation. (1pt)

1) $4x - 3y = 25$; (4, 3)

A) Yes B) No

Complete the ordered pair for the given equation. (1pt)

2) $y = -3x - 7$ (-5,)

A) (-5, 6) B) (-5, -5) C) (-5, -7) D) (-5, 8)

Problems 3 & 4 Find the intercepts for the graph of the equation. (1pt each)

3) $3x + y = 9$

A) (0, 5) (0, -6) B) (5, 0) (-6, 0) C) (3, 0) (0, 9) D) (9, -6) (5, 9)

4) $-5x + 2y = 10$

A) (0, -3) (0, -5) B) (-3, 0) (-5, 0) C) (-2, -5) (-3, 10) D) (-2, 0) (0, 5)

Problems 5 & 6 Find the slope of the line going through the given pair of points. (2pts each)

5) (6, -7) and (6, 2)

A) $-\frac{4}{9}$ B) $-\frac{9}{4}$ C) Undefined D) 9

6) (-6, 4) and (-5, -9)

A) $-\frac{2}{5}$ B) - 13 C) $-\frac{5}{2}$ D) $-\frac{1}{13}$

Write an equation of the line with the given slope and y-intercept. (2pts)

7) $m = 0$; (0, 3)

A) $y = 3$ B) $y = 0$ C) $x = 3$ D) $y = 3x$

Write an equation of the line through the given point with the given slope. Write the equation in slope-intercept form. (2pts)

8) (5, 5); $m = -3$

A) $y = -3x - 20$ B) $y = -3x + 20$ C) $y = -\frac{1}{3}x + 20$ D) $y = -3x + \frac{1}{20}$

Write the slope-intercept form of the equation for the line passing through the given pair of points. (3pts)

9) (-6, -8) and (-6, -10)

A) $-10x - 8y = 0$ B) $-8x - 10y = 0$ C) $y = -8$ D) $x = -6$

Problems 10 & 11, find an equation in slope-intercept form of the line satisfying the specified conditions. (3pts each)

10) Through (2, -13), parallel to $-3x - 2y = 10$

A) $y = \frac{3}{2}x + 10$ B) $y = -5x - 5$ C) $y = -\frac{2}{3}x + \frac{13}{3}$ D) $y = -\frac{3}{2}x - 10$

11) Through (9, -2), perpendicular to $9x - 7y = 67$

A) $y = \frac{7}{9}x + 5$ B) $y = -\frac{9}{7}x + \frac{67}{7}$ C) $y = -\frac{7}{9}x + 5$ D) $y = -\frac{9}{7}x - \frac{9}{7}$

In problems 12 - 16, use the rules of exponents to simplify the expressions. (2pts each)

12) $(7x^4)(-9x^3)(-2x^5)$

A) $126x^{12}$ B) $-126x^{60}$ C) $126x^{60}$ D) $-126x^{12}$

13) $5(rt)^9$

A) $5r^9t^9$ B) $5r^9t$ C) $5rt^9$ D) $5^9r^9t^9$

14) $\left(\frac{r}{s}\right)^6$ $(s \neq 0)$

A) $\frac{6r}{6s}$ B) $\frac{r^6}{s^6}$ C) $\frac{r}{s^6}$ D) $\frac{r^6}{s}$

15) $\left(\frac{1}{3}\right)^{-2}$

A) 9 B) $\frac{1}{6}$ C) -9 D) $\frac{1}{9}$

16) $14^0 + (-11)^0$

A) 1 B) 3 C) 0 D) 2

In Problems 17 - 20, use the rules of exponents to simplify the expressions. (3pts each)

17) $\left(\frac{2p^3v^4}{s^3}\right)^4$ $(s \neq 0)$

A) $\frac{16p^{12}v^{16}}{s^{12}}$ B) $\frac{2p^{12}v^{16}}{s^{12}}$ C) $\frac{2p^{12}v^{16}}{s^7}$ D) $\frac{16p^7v^8}{s^7}$

18) $t^{-6} \cdot t^2 \cdot t^{-7}$

A) t^{11} B) t^{15} C) $\frac{1}{t^{11}}$ D) $\frac{1}{t^{15}}$

Remember that you are using the rules of exponents to simplyfiy the expressions. (3pts each)

19) $2^{-1} + 4^{-1}$

A) 2 B) $\frac{4}{3}$ C) $\frac{3}{4}$ D) $-\frac{1}{2}$

20) $\left(\frac{tz^{-4}}{t^{-2}z}\right)^{-3}$

A) $\frac{t^{15}}{z^9}$ B) $\frac{z^{12}}{t^6}$ C) $\frac{t^{12}}{z^6}$ D) $\frac{z^{15}}{t^9}$

In 21 & 22, write the numbers in scientific notation. (2pts each)

21) 320,000

A) 3.2×10^5 B) 3.2×10^{-4} C) 3.2×10^{-5} D) 3.2×10^4

22) 0.000000852011

A) 8.52011×10^6 B) 8.52011×10^{-7} C) 8.52011×10^7 D) 8.52011×10^{-6}

For 23 &24, perform the indicated operation. Write the answer in scientific notation. (3pts each)

23) $(2 \times 10^7)(9 \times 10^8)$

A) 1.8×10^{16} B) 18×10^{16} C) 18×10^{56} D) 1.8×10^{15}

24) $\frac{16.96 \times 10^3}{4 \times 10^4}$

A) 8.48×10^7 B) 4.24×10^7 C) 8.48×10^{-1} D) 4.24×10^{-1}

For problems 25 - 28, perform the indicated operations with the given polynomials. (3pts each)

25) $(6n^6 - 9n - 9n^4) + (3n^4 + 5n^6 - 6n)$

A) $-10n^{11}$ B) $-4n^6 + 9n^4 - 15n$ C) $11n^6 - 6n^4 - 15n$ D) $11n - 6n^6 - 15n^4$

26) $(-2a^5 + 19a^4) - (-9a^5 - 11a^4)$

A) $37a^9$ B) $7a^5 + 8a^4$ C) $-11a^5 + 8a^4$ D) $7a^5 + 30a^4$

27) $(3x^2 - 3x - 3)(x^2 + 2x + 4)$

A) $3x^4 + 6x^3 + 3x^2 - 18x - 12$ B) $3x^4 + 3x^3 + 6x^2 - 18x - 12$

C) $3x^4 + 6x^3 + 6x^2 - 18x - 12$ D) $3x^4 + 3x^3 + 3x^2 - 18x - 12$

28) $3t^4(t - 3)(4t - 3)$

A) $12t^6 - 45t^5 + 27t^4$ B) $12t^6 - 36t^5 + 27t^4$ C) $12t^6 + 27t^4$ D) $12t^6 + 27t^5 - 45t^4$

Problems 29 - 34, perofrm the indicated operations. (3pts each)

29) $(w - 6)^2$

A) $w + 36$ B) $36w^2 - 12w + 36$ C) $w^2 + 36$ D) $w^2 - 12w + 36$

30) $(x + 12)(x - 12)$

A) $x^2 - 24$ B) $x^2 - 144$ C) $x^2 - 24x - 144$ D) $x^2 + 24x - 144$

31) $(x + 3)^3$

A) $x^3 + 9x^2 + 9x + 27$ B) $x^3 + 9x^2 + 3x + 27$

C) $x^3 + 9x^2 + 27x + 27$ D) $x^3 + 3x^2 + 3x + 27$

32) $\dfrac{-35x^9 - 15x^8 + 20x^6 - 15x^4}{-5x^6}$

A) $7x^3 + 3x^2 - 4$ B) $-7x^3 - 3x^2 + 4 - \dfrac{3}{x^2}$

C) $7x^3 + 3x^2 - 4 + \dfrac{3}{x^2}$ D) $7x^3 + 6x^2 - 4$

33) $(6m^2 + 37m - 35) \div (m + 7)$

A) $6m - 5 + \dfrac{4}{m - 5}$ B) $m - 5$ C) $6m - 5$ D) $6m + 5$

34) $\dfrac{x^3 + 125}{x + 5}$

A) $x^2 - 5x + 25$ B) $x^2 - 5x - 25$ C) $x^2 + 5x + 25$ D) $x^2 - 10x + 25$