Math-2 Name_____ ID: 1

SM2 In-Class 3-2 (Unit 2 Weak Areas, Lines)

Date_____ Period____

Solve each equation.

1) $-98 = -2(5x - 7) - 6x$

$\{7\}$

2) $87 = 3m + 3(1 - 8m)$

$\{-4\}$

3) $1 + 2x = 3$

1

4) $6v - 7 = 101$

18

Solve each equation.

5) $1 + 2|7 + x| = 3$

$\{-6, -8\}$

6) $6|v - 10| - 7 = 101$

$\{28, -8\}$

Simplify. Your answer should contain only positive exponents.

7) $x^{-4}y^{4} \cdot 2x^{-1}$

$\frac{2y^4}{x^5}$

8) $3x^4y^4 \cdot 4yx^2$

$12x^6y^5$

9) $(4yx^4)^2$

$16y^2x^8$

10) $(4yx^2)^{-4}$ $\frac{1}{256y^4x^8}$

11) $\frac{(u^2v^{-4})^{-3}}{u^4v^4}$

$\frac{v^8}{u^{10}}$

12) $\frac{a^3b^2}{(2a^4)^2}$ $\frac{b^2}{4a^5}$

Factor the common factor out of each expression.

13) $-15k^3 + 21k^2 + 27k$

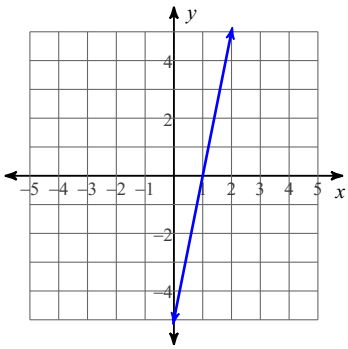
$3k(-5k^2 + 7k + 9)$

14) $-18n^4 + 63n^3 + 54n^2$

$9n^2(-2n^2 + 7n + 6)$

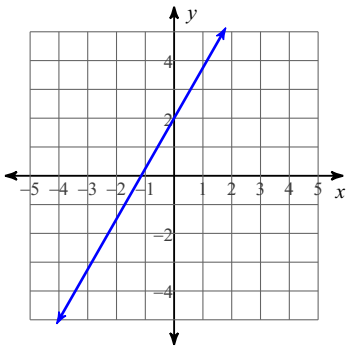
Write the slope-intercept form of the equation of each line.

15)



$y = 5x - 5$

16)



$y = \frac{7}{4}x + 2$

Write the slope-intercept form of the equation of the line through the given point with the given slope.

17) through: $(1, 1)$, slope $= -\frac{2}{3}$

$y = -\frac{2}{3}x + \frac{5}{3}$

18) through: $(2, -4)$, slope $= -\frac{1}{7}$ $y = -\frac{1}{7}x - \frac{26}{7}$

Write the slope-intercept form of the equation of the line through the given points.

19) through: $(5, 3)$ and $(-3, -2)$

$y = \frac{5}{8}x - \frac{1}{8}$

20) through: $(-2, -2)$ and $(-1, -5)$

$y = -3x - 8$

Write the slope-intercept form of the equation of the line described.

21) through: $(3, 1)$, parallel to $y = -\frac{1}{2}x - 4$

$y = -\frac{1}{2}x + \frac{5}{2}$

22) through: $(1, 3)$, parallel to $y = 5x + 3$

$y = 5x - 2$

23) through: $(-4, -1)$, perp. to $y = 4x - 1$

$y = -\frac{1}{4}x - 2$

24) through: $(2, 2)$, perp. to $y = -\frac{2}{7}x + 2$

$y = \frac{7}{2}x - 5$

