Name: _____ Date: _____

1. ***Factor each of the following fully.***

a. $6x^2y^2 - 3x^6y + 4x^2y$

$x^2y(6y - 3x^4 + 4)$

b. $x^2 + x - 30$

$(x-5)(x+6)$

c. $2x^2 + 6x + 4$

$2(x+1)(x+2)$

d. $5x^2 - 13x - 6$

$(5x+2)(x-3)$

2. ***Expand each of the following.***

a. $(x - 4)(x + 1)$

$x^2 - 3x - 4$

b. $(3x - 14)(-5x + 2)$

$-15x^2 + 76x - 28$

3. ***Use exponent rules to simplify. Show all work.***

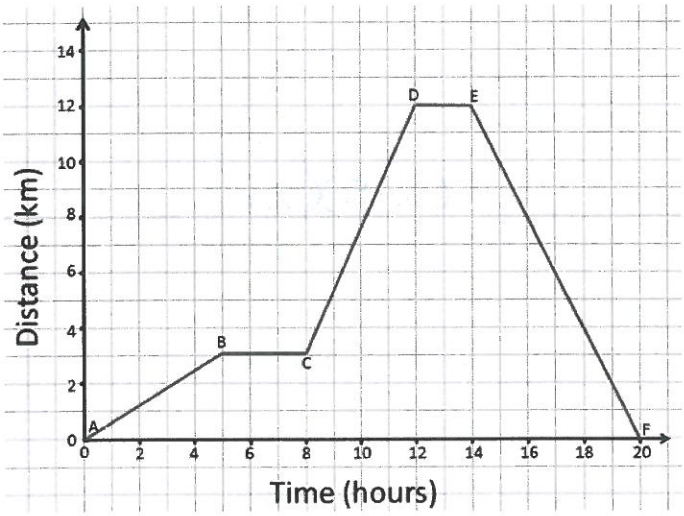
a. $\frac{(a^3b^2)(a^{-2}b^3)}{(a^2b)}$

$\frac{b^4}{a^1}$

b. $\left(\frac{a^{-2}b^8}{a^2b^3}\right)^{-2}$

$\frac{a^8}{b^{10}}$

4. *Describe a real-life situation that fits this graph.*



AB: Move 3 km in 5hrs

BC: Stay there for 3 hrs

CD: Move 9km in 4hrs

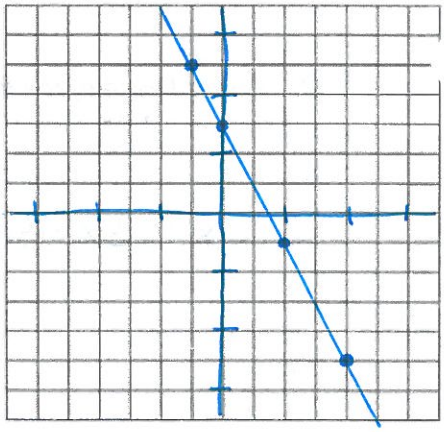
DE: Stay there for 2 hrs

EF: Move 12 km back in 6hrs

5. *Complete the table of values using the equation, then graph the data.*

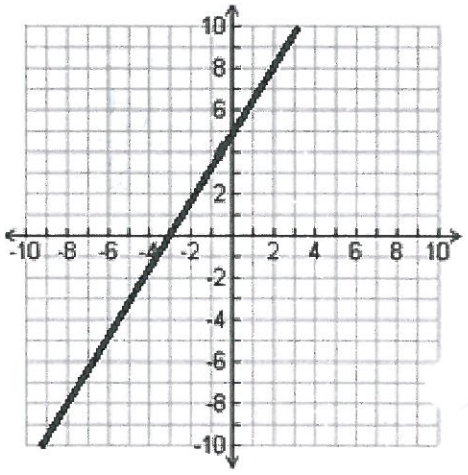
$f(x) = -2x + 3$

x	y
-1	5
0	3
2	-1
4	-5



CHAPTER 6 – LINEAR FUNCTIONS

6. *Identify the following components of the graph provided...*



a. X-Intercept:

$x = -3$

b. Slope:

$\text{slope} = \frac{5}{3} = 1.67$

c. Y-Intercept:

$y = 5$

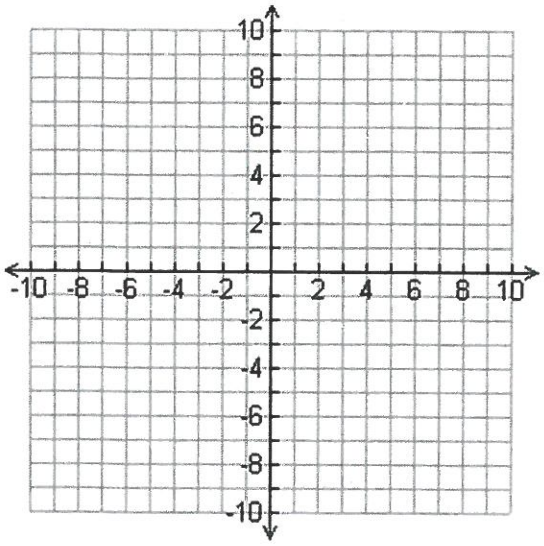
d. Equation of the line:

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

7. *Solve this system of equations by graphing.*

Equation A:
$y = \frac{3}{2}x - 7$

Equation B:
$y + 3 = -2(x - 5)$



Solution: (4, -1)

8. *Solve this system of equations using elimination or substitution.*

$3x - 2y = 6$

$2x + 4y = 20$

Solution: (4, 3)