Real-World Problems

<u>Learning Target 1</u> **(_____/11 points _____%)**
I am able to represent real-world problems using: variables, symbols, expressions, and one- and two-step equations.

Write an equation for the following tables and graphs.

1.) To encourage customers, a new movie theater is offering memberships. The membership costs $75 a year plus $2 per movie. For non-members, the cost of a movie is $5.75.

a.) Write an equation for the cost for members and write an equation for non-members. Explain what the variables in your equations represent. (2 pts.)

b.) What is the slope of each equation? What does it mean in the context of this problem? (2 pts.)

c.) What is the y-intercept of each equation? What does it mean in the context of this problem? (2 pts.)

d.) Find the cost for both members and non-members for seeing 10 movies. (2 pts.)

e.) How many movies can each see for $100? (2 pts.)

f.) How many movies would make both plans equal to each other? (1 pt.)

PLUS

Tables, Graphs, Equations

<u>Learning Target 2</u> **(_____/24 points _____%)**

I am able to translate between numerical, tabular, graphical, and symbolic representations of linear data.

Write an equation for the following tables and graphs.

1.)

x	2	4	6	8
y	5	8	11	14

2.)

x	-1	1	3	5
y	6	0	-6	-12

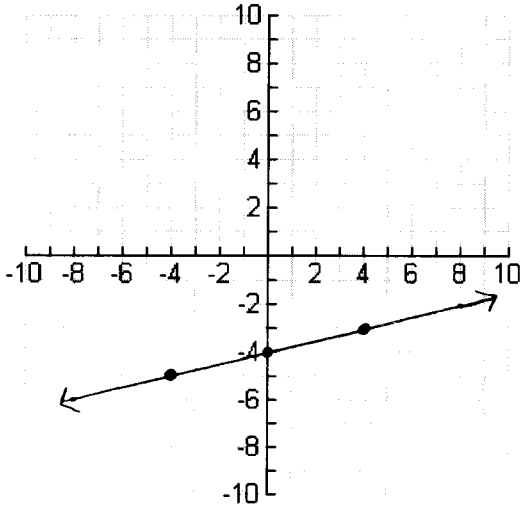
3.)

x	5	6	7	8
y	5	13	21	29

4.)

x	-2	0	2	4
y	-5	-7	-9	-11

5.)



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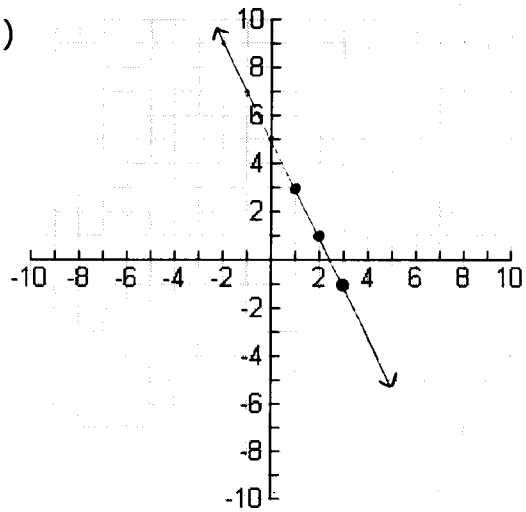

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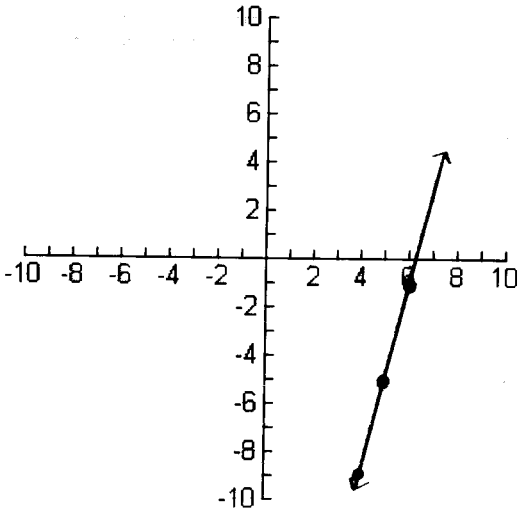

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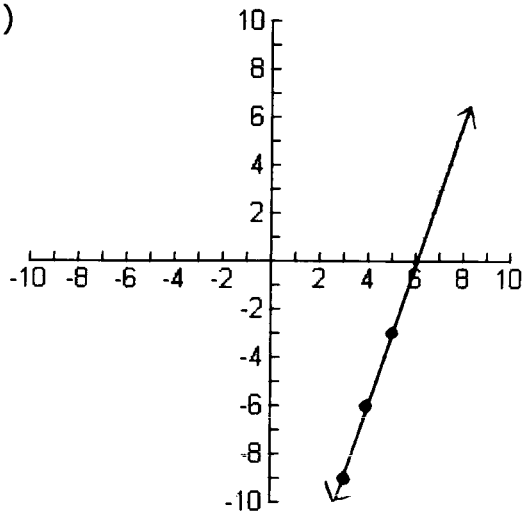

9.) Identify the slope & y-intercept in each equation.

a.) $y = 17 - 9x$ b.) $y = 20 - x$ c.) $y = 5.4x$

d.) $y = 9$ e.) $8x + y = 19$ f.) $-2x + y = -20$

10.) Write an equation for the set of coordinates.

a.) (-2, 7) (-1, 3) (0, -1) (1, -5) b.) (-4, 4) (-2, 0) (1, -6) (2, -8)

11.) Write an equation for the following conditions.

a.) The slope is 4 and the y-intercept is -12.

b.) The slope is 0 and the y-intercept is 2½.

c.) The slope is -2 and passes through the point (3, -8).

d.) The slope is $\frac{2}{3}$ and passes through the point (15, -9).

e.) The line passes through the points (5, 32) and (15, 62).

f.) The line passes through the points (-5, 44) and (5, 24).

Solving Equations

<u>Learning Target 3</u> **(_____/20 points _____%)**
I am able to find the solution to one- and two-step linear equations.

Solve each equation for the given variable.

1.) $4x + 3 = 7$
2.) $3n - 8 = 10$
3.) $0 = 7m - 21$
4.) $4k + 32 = 4$
5.) $47 = 15 + 4c$

6.) $\frac{1}{7}x + 10 = 3$
7.) $\frac{2}{3}d - 2 = 40$
8.) $1 = \frac{2}{5}a + 9$
9.) $-\frac{3}{4}x + 3 = -15$
10.) $14 = -\frac{1}{3}f - 2$

11.) $\frac{a}{-4} + 14 = 20$
12.) $\frac{c}{7} + 20 = 7$
13.) $40 = \frac{k}{11} + 32$
14.) $15 = \frac{x}{-2} - 18$
15.) $-7 + \frac{p}{5} = -21$

16.) $5x = 27 - 4x$
17.) $7w - 20 = 2w + 5$
18.) $11a + 40 = -4a + 70$
19.) $6d + 11 = -3d + 47$
20.) $2c - 13 = -2c + 15$

21.) $7x + 17 = 4x - 24$
22.) $-12x + 2 = 10x - 13$
23.) $-5x - 10 = -4x + 43$