Interpreting Graphs & Mixed Review

Agenda

Warm-Up (Kahoot)

Notes - 6

Activity - Showdown

HW: #1-6

Reminders

Algebra 1 EOC Thursday May 8th!!

Warmup

Have out your HW & Defeat the EOC book

Get out your internet capable device!!

Course Verification Sheets

~~This is not your 2014-2015 schedule.~~

You cannot drop an AP course

until after the first 6 weeks.

If you do not return this completed form to

your counselors by Friday May 9th, you

cannot change your schedule for any

reason.

A dentist made the scatterplot below to show the number of cavities her patients had as it relates to the number of times they flossed their teeth each week.
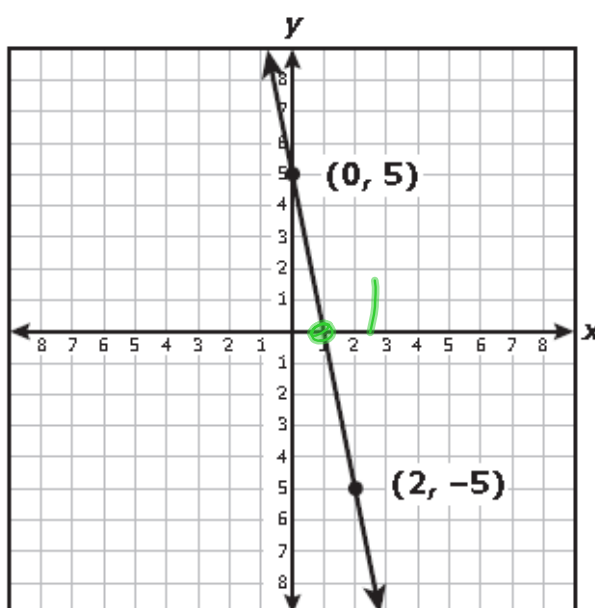
Cavities and Flossing

Number of Cavities

Number of Times the Patient
Flossed Each Week
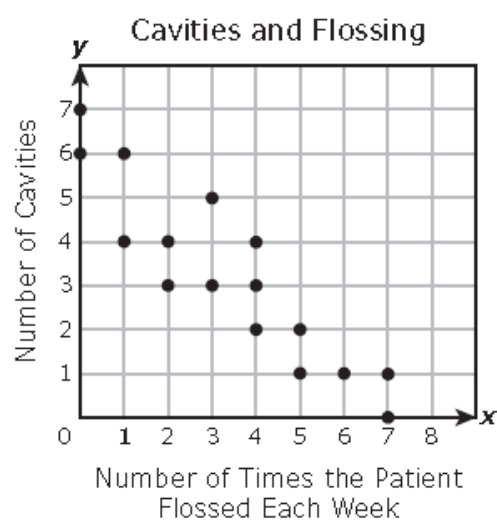
Which of the following best describes the correlation for the data?

A Positive correlation   **C** Negative correlation

B Nonlinear correlation   **D** No correlation
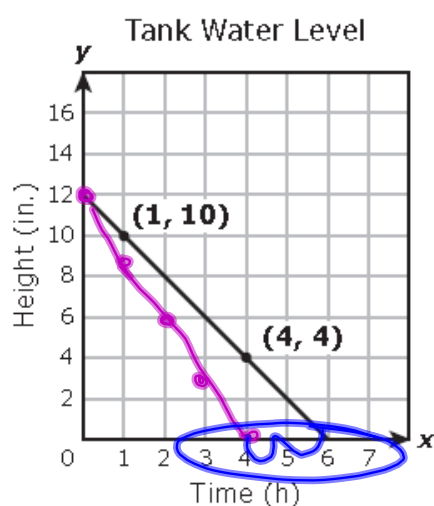
What is the zero of the linear function graphed below?

X-int

Record your answer and fill in the bubbles on your answer document.

The graph below shows the water level in a tank being drained at a constant rate.

Tank Water Level

y

Height (in.)

16
14
12 (1, 10)
10
8
6   (4, 4)
4
2

0   1   2   3   4   5   6   7   *x*

Time (h)

If the rate at which the tank is drained is changed to 3 inches per hour and the initial water level stays the same, how would the time it takes to empty the tank be affected?

F It would take 4 fewer hours.

G It would take 1.5 more hours.

H It would take 2 fewer hours.

J It would take 2 more hours.

Which expression is equivalent to $\dfrac{12x^6y^{-4}z^2}{3x^2y^{-6}z^3}$?
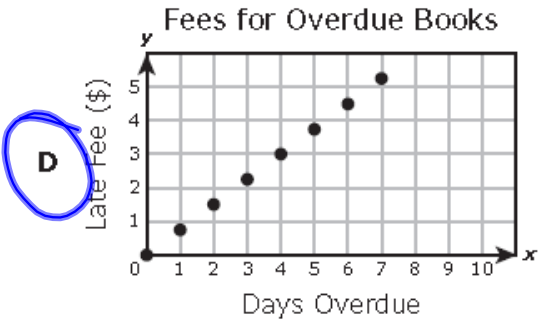
A $\dfrac{9x^8z^5}{y^{-10}}$

B $\dfrac{4x^8z^5}{y^{-10}}$

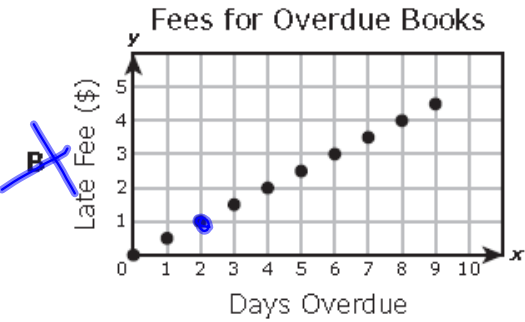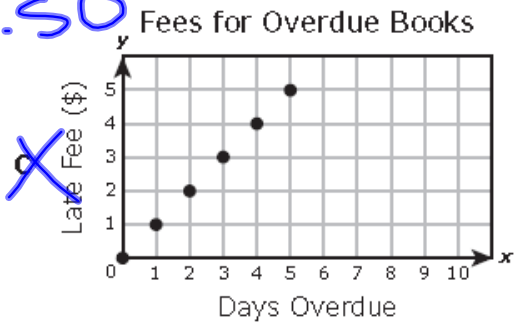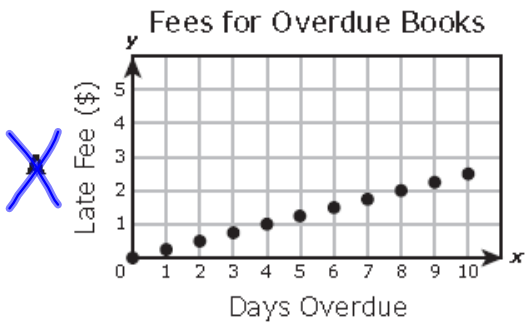C $\dfrac{9x^4y^2}{z}$

D $\dfrac{4x^4y^2}{z}$

$$\dfrac{12}{3}\begin{array}{c}4\\1\end{array}$$

The late fee for overdue books at a library is $0.25 per day per book, with a maximum late fee of $5.00 per book. Which graph models the total late fee for 3 books that were checked out on the same day and are overdue?

.75
1.50

Fees for Overdue Books

A

Late Fee ($) vs. Days Overdue

Fees for Overdue Books

C

Late Fee ($) vs. Days Overdue

Fees for Overdue Books

B

Late Fee ($) vs. Days Overdue

Fees for Overdue Books

D

Late Fee ($) vs. Days Overdue

Practice

1. Which ordered pair is the solution to the system of equations below?

$$x + 3y = 7$$
$$x + 2y = 10$$

A $\left(\dfrac{7}{2}, \dfrac{13}{4}\right)$ B $\left(\dfrac{7}{2}, -3\right)$

C (-2, 3)   D (16, -3)

2. Members of a senior class held a car wash to raise funds for their senior prom. They charged $3 to wash a car and $5 to wash a pick-up truck or a sport utility vehicle. If they earned a total of $275 by washing a total of 75 vehicles, how many cars did they wash?

A 25
B 34
C 45
D 50

3. Manuel and Felicia are comparing how much money they have. Manuel states that he has $250 and saves $150 per week. Felicia states that she has $1,650 and spends $200 per week. Which system of equations can be used to determine x, the number of weeks, and y the amount of money at the end of the week?

A $y = 250x + 150$
   $y = 1650x - 200$

B $y = 250 + 150x$
   $y = 1650 - 200x$

C $y = 250 - 150x$
   $y = 1650 + 200x$

D $y = 250 - 150x$
   $y = 1650 - 200x$

4. Given the two equations $2x + 3y = 12$ and $2x - y = 4$, what is the value of $x + y$?

A -5   B -1   C 1   D 5

[handwritten: $2x+3y=12$, $-2x$, $3y = \dfrac{12-2x}{3}$, $y = $; $2x-y=4$, $-y=4-2x$, 3 2]

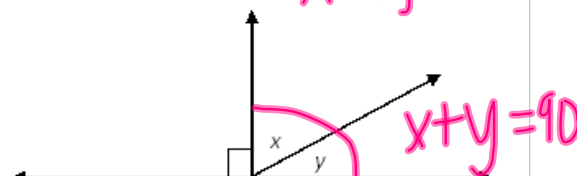5. To solve the linear system below, which substitution of unknowns is proper?

$$3x - 7y = 12$$
$$5x - y = -16$$

A Substitute $5x - 16$ for y in the first equation.
B Substitute $5x + 16$ for y in the first equation.
C Substitute $5x + 12$ for y in the first equation.
D Substitute $7y - 4$ for x in the second equation.

6. The measure of angle x is 15° less than twice the measure of angle y.

[handwritten: $x = 2y - 15$, $x + y = 90$]

Which system of equations will determine the measure of each angle?

A $x + y = 90$
   $x = y - 15$

C $x + y = 90$
   $x = 2y - 15$

B $x + y = 90$
   $x = 15 - 2y$

D $2x = 90$
   $x = 2y - 15$

7. Which point is a solution of the system of linear inequalities?

$$y < -2x$$
$$y > 3x + 5$$

A (2, -1)   B (-4, 1)
C (-1, 4)   D (1, -2)

8. At what point do the lines represented by the equations $2x + y + 1 = 0$ and $4x + y - 3 = 0$ intersect?

A (2, 5)
B (2, -5)
C (-1, 1)
D (1, -1)

9. Julie is planning to put a fence around a rectangular garden. The length of the garden is 3 feet more than 1.5 times its width. If Julie uses a total of 36 feet of fencing around the edge of the garden, what is the length of the garden?
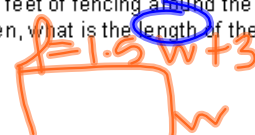
A 6 ft
B 13.2 ft
C 12 ft
D 10.5 ft

[handwritten: length, $l = 1.5w + 3$, $2l + 2w = 36$, $12 = 1.5(6) + 3$, $12 = 9 + 3$, $2(12) + 2w = 36$, $24 + 2w = 36$, $2w = 12$, $w = 6$]
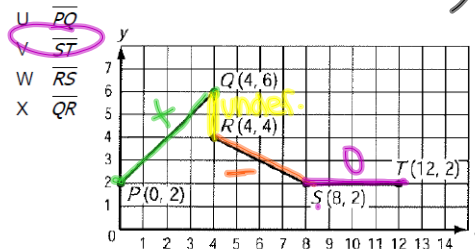
Interpreting Graphs

Always READ carefully!

1. Four line segments are shown on the coordinate grid below. Which of the line segments has a slope of 0?

U $\overline{PQ}$
V $\overline{ST}$
W $\overline{RS}$
X $\overline{QR}$

zero
undefined

Q (4, 6)
R (4, 4)
T (12, 2)
P (0, 2)
S (8, 2)

2. A graph of the relationship between the speed of a car in miles per hour and the car's approximate stopping distance in feet is shown below. What is the approximate stopping distance for a car traveling 70 miles per hour?

J   350 ft
K   250 ft
L   325 ft
M   300 ft

Stopping Distance (feet)

Speed (miles per hour)
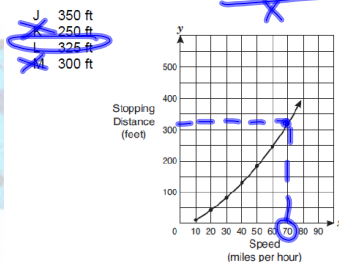
3. The graph shows the number of gallons of gas used by Maria's car as a function of the number of miles driven. About how many gallons of gas will Maria need for a 170-mile trip?

W   7 gal
X   11 gal
Y   8.5 gal
Z   9.5 gal

Gallons of Gas

Miles Driven
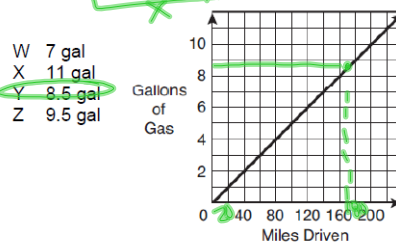
4. Hank wants to build a rectangular pigpen using 12 linear yards of fencing. The possible area in square yards, A, for this pigpen is described by the function $A = w(6 - w)$, where w represents the width in yards of the rectangular pen. The graph of this function is shown below.
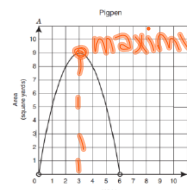
Pigpen

maximum

A   The pigpen with the maximum area has a width of 6 yards.
B   The pigpen with the maximum area has a width of 3 yards.
C   The pigpen with the maximum area has a width of 9 yards.
D   The pigpen with the maximum area has a width of 12 yards.

Which statement best represents the information in this graph?

5. Jim recently opened a store. The graph below shows the store's weekly sales since it opened. What can be inferred from this graph?

constant

Weekly Sales (dollars)

Weeks Since Opening
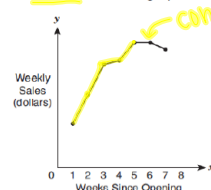
P   The store's sales have been increasing since it opened.
Q   The store's sales increased for the first 5 weeks after it opened, remained constant the next week, and then decreased the last week shown.
R   The store's sales increased for the first 2 weeks after it opened, but then they began to decrease.
S   The store's sales increased for the first 5 weeks after it opened, but then they decreased the next 2 weeks.

Mixed Review
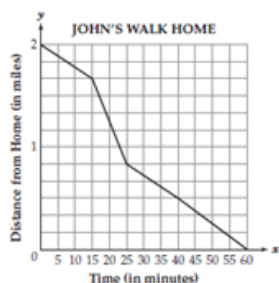## Showdown

Instructions:

At your table: Number yourselves off 1, 2, 3, and 4.

All number 2's - come get whiteboard markers to show work on your table.

You need at least one device with the capability to scan QR codes.

Practice

1. John is 2 miles away from his house. The graph below shows the time it takes John to walk home.

JOHN'S WALK HOME

According to the graph, during what time interval is John walking the fastest?

2. The graph below represents the relationship between the term, in seconds, an arrow is shot upward and its height, in feet.
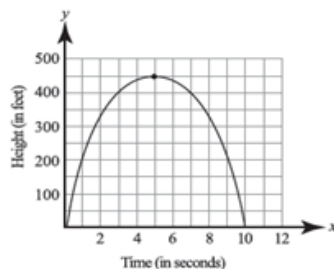
From the time it was shot, how long does it take for the arrow to return to the ground, and what is its maximum height?

A   5 seconds, 450 feet
B   10 seconds, 450 feet
C   10 seconds, 500 feet
D   450 seconds, 10 feet

3. The graph of $f(x) = -\frac{1}{2}x^2 - 3x + 8$ is shown below.

Which of the following statements appears to be true?
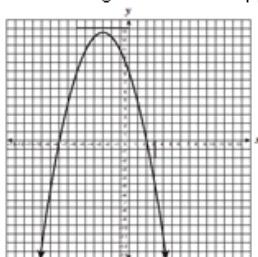
A   The vertex is at (-3, 12).
B   The axis of symmetry is $x=-3$.
C   The zeros of the related function are -8, 2, and 8.
D   The y-intercept is (8, 0).

4. Ryan is writing a composition for homework. He decides to keep track of the number of sentences he writes compared to the time in minutes he works. The graph below shows the data he collected.
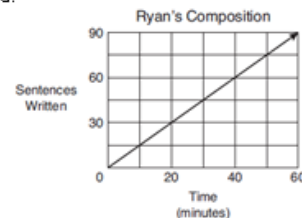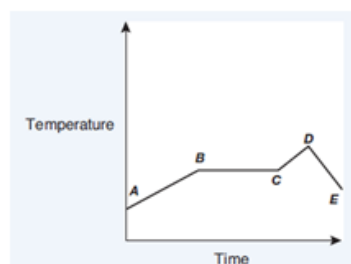
Ryan's Composition

At what rate does Ryan write his composition?

A 0.5 sentence per minute

B 1 sentence per minute

C 1.5 sentences per minute

D 2 sentences per minute

5. Look at the function that is graphed below.
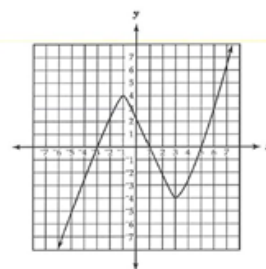
What are the zero(s) of the function?

6. The graph below shows the temperature in a town over the course of one day.

During what time period did the temperature increase at the greatest rate?