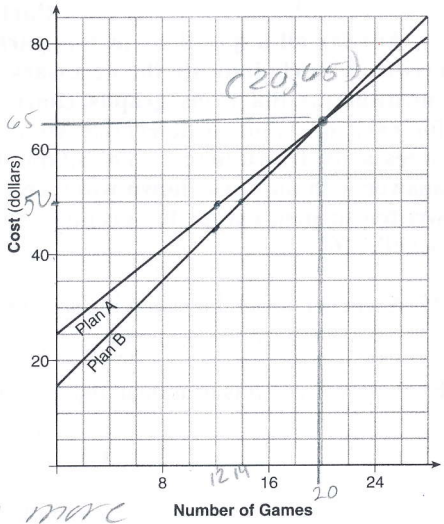


ALGEBRA 1
August 2017

28. The graph models the cost of renting video games with a membership in Plan A and Plan B.



Explain why Plan B is the better choice for Dylan if he only has \$50 to spend on video games, including a membership fee.

Dylan can get 2 more games with Plan B for \$50.

Bobby wants to spend \$65 on video games, including a membership fee. Which plan should he choose? Explain your answer.

Either plan because both plans sell 20 games for \$65.

January 2018

Part IV

Answer the question in this part. A correct answer will receive 6 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided to determine your answer. Note that diagrams are not necessarily drawn to scale. A correct numerical answer with no work shown will receive only 1 credit. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [6]

37. At Bea's Pet Shop, the number of dogs, d , is initially five less than twice the number of cats, c . If she decides to add three more of each, the ratio of cats to dogs will be $\frac{3}{4}$.

cats : dogs

Write an equation or system of equations that can be used to find the number of cats and dogs Bea has in her pet shop.

Could Bea's Pet Shop initially have 15 cats and 20 dogs? Explain your reasoning.

Determine algebraically the number of cats and the number of dogs Bea initially had in her pet shop.

$$d = 2c - 5$$

$$\frac{c+3}{d+3} = \frac{3}{4}$$

on page 50
4th gr book

$$20 = 2(15) - 5$$

$$20 = 30 - 5$$

$$20 \neq 25$$

false b/c when
you substituted
the # of cats & dogs
into the equation,
it does not work out.

$$\frac{15+3}{20+3} \stackrel{!}{=} \frac{3}{4}$$

$$\frac{18}{23} \neq \frac{3}{4}$$

not true

HW 5/13 ALGEBRA 1
use p. 509 June 2018
51 Part I

Answer all 24 questions in this part. Each correct answer will receive 2 credits. No partial credit will be allowed. For each statement or question, choose the word or expression that, of those given, best completes the statement or answers the question. Record your answers in the space provided. [48]

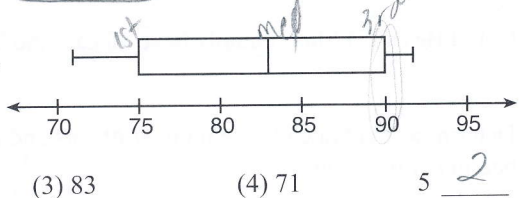
1. The solution to $4p + 2 < 2(p + 5)$ is
 (1) $p > -6$ (2) $p < -6$ (3) $p > 4$ (4) $p < 4$ 1 4

2. If $k(x) = 2x^2 - 3\sqrt{x}$, then $k(9)$ is
 (1) 315 (2) 307 (3) 159 (4) 153 2 4

3. The expression $3(x^2 + 2x - 3) - 4(4x^2 - 7x + 5)$ is equivalent to
 (1) $-13x - 22x + 11$ (2) $-13x^2 + 34x - 29$
 (3) $19x^2 - 22x + 11$ (4) $19x^2 + 34x - 29$ 3 2

4. The zeros of the function $p(x) = x^2 - 2x - 24$ are
 (1) -8 and 3 (2) -6 and 4 (3) -4 and 6 (4) -3 and 8 4 3

5. The box plot summarizes the data for the average monthly high temperatures in degrees Fahrenheit for Orlando, Florida. The third quartile is



(1) 92 (2) 90 (3) 83 (4) 71 5 2

6. Joy wants to buy strawberries and raspberries to bring to a party. Strawberries cost \$1.60 per pound and raspberries cost \$1.75 per pound. If she only has \$10 to spend on berries, which inequality represents the situation where she buys x pounds of strawberries and y pounds of raspberries?
 (1) $1.60x + 1.75y \leq 10$ (2) $1.60x + 1.75y \geq 10$
 (3) $1.75x + 1.60y \leq 10$ (4) $1.75x + 1.60y \geq 10$ 6 1

7. On the main floor of the Kodak Hall at the Eastman Theater, the number of seats per row increases at a constant rate. Steven counts 31 seats in row 3 and 37 seats in row 6. How many seats are there in row 20?
 (1) 65 (2) 67 (3) 69 (4) 71 7 1

8. Which ordered pair below is *not* a solution to $f(x) = x^2 - 3x + 4$?
 (1) $(0, 4)$ (2) $(1.5, 1.75)$ (3) $(5, 14)$ (4) $(-1, 6)$ 8 4

9. Students were asked to name their favorite sport from a list of basketball, soccer, or tennis. The results are shown in the table below.

	Basketball	Soccer	Tennis
Girls	42	58	20
Boys	84	41	5

What percentage of the students chose soccer as their favorite sport?
 (1) 39.6% (2) 41.4% (3) 50.4% (4) 58.6% 9 1

HW green regents book 5/13
p. 16, 31, & 32

p. 31 #37.) $d = 2c - 5$

$$\begin{array}{l} c+3 = 3 \\ d+3 = 4 \end{array}$$

$$3(d+3) = 4(c+3)$$

$$3d + 9 = 4c + 12$$

$$3(2c-5) + 9 = 4c + 12$$

$$6c - 15 + 9 = 4c + 12$$

$$\begin{array}{r} -4c \quad \checkmark \quad -4c \\ \hline 2c - 6 = 12 \end{array}$$

$$2c - 6 = 12$$

$$\begin{array}{r} +6 \quad +6 \\ \hline 2c = 18 \end{array}$$

$$\frac{2c}{2} = \frac{18}{2}$$

$$c = 9$$

$$d = 2c - 5$$

$$\rightarrow d = 2(9) - 5$$

$$d = 18 - 5$$

$$d = 13$$

9 cats &
13 dogs

p. 32

2.)

$$K(x) = 2x^2 - 3\sqrt{x}$$

$$K(9) = 2(9)^2 - 3\sqrt{9}$$

$$= 2(81) - 3(3)$$

$$= 162 - 9$$

$$K(9) = 153$$

1.)

$$4p + 2 < 2(p+5)$$

$$4p + 2 < 2p + 10$$

$$\begin{array}{r} -2p \quad -2p \\ \hline 2p + 2 < 10 \end{array}$$

$$2p + 2 < 10$$

$$\begin{array}{r} -2 \quad -2 \\ \hline 2p < 8 \end{array}$$

$$\frac{2p}{2} < \frac{8}{2}$$

$$p < 4$$

3.) $3(x^2 + 2x - 3) - 4(4x^2 - 7x + 5)$

$$3x^2 + 6x - 9$$

$$\begin{array}{r} -16x^2 + 28x - 20 \\ \hline -13x^2 + 34x - 29 \end{array}$$

$$-13x^2 + 34x - 29$$

4) $f(x) = x^2 - 2x - 24$
 $0 = (x + 4)(x - 6)$
 $x = -4 \quad | \quad x = 6$

6.) $1.60x + 1.75y = 10$

#7.)

Row	seeds (sequence)
1	27
2	29
3	31
4	33
5	35
6	37
20	?

+8

$d = 2 \quad a_1 = 27$

$a_n = 27 + (n-1)2$

$a_n = 27 + 2n - 2$

$a_n = 25 + 2n$

$a_{20} = 25 + 2(20)$
 $= 65$

8) $f(x) = x^2 - 3x + 4$
 Calc. question

9) $\frac{99}{250} = 39.6\%$