

Name:

Test #

6

CA

Date:

Key

1.

2 stops for fuel



4

6.

0.7 g strongest

0.52 linear relationship

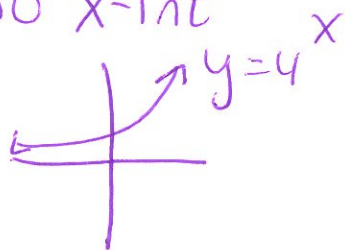
-0.63

-0.84

4

2.

no x-int



2

7. constant increase?

hour	\$	m = 100
1	100	1
2	200	
3	300	
4	400	
5	500	

4

3.

$$y = 2x^2 + x - 5$$

$$y + 3 = x \Rightarrow y = x - 3$$

$$x - 3 = 2x^2 + x - 5 \Rightarrow y = 1 - 3 = -2$$

$$0 = 2x^2 - 2$$

$$x = \pm 1$$

(1, -2)

1

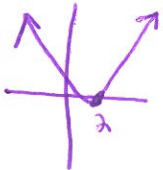
8.

$$15x + 2y + 5z = 100$$

3

4.

$$f(x) = \begin{cases} -3x + 6, & x < 2 \\ 3x - 6, & x \geq 2 \end{cases}$$



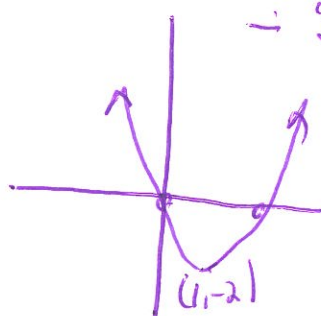
$$f(x) = |3x - 6|$$

calculator

3

9.

x	f(x)
-2	2
-1	3
0	4
1	5



f(x) ↑
g(x) ↓

1

5.

(3, -5) (2, -3) (-1, 3)

$$m = \frac{-3 - (-5)}{2 - 3} = \frac{2}{-1} = -2$$

$$y - 3 = -2(x + 1)$$

$$y - 3 = -2x - 2$$

$$y = -2x + 1$$

(-5, 11)

2

10.

$$x^2 - 6x + 8 = 0$$

$$(x - 4)(x - 2) = 0$$

$$x = 4$$

$$x = 2$$

{2, 4}

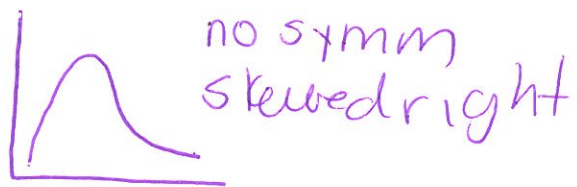
1

11.

Bivariate data
grade level and age
of students in school

2

16.



4

$$A = P \left(1 \pm \frac{r}{n} \right)^{nt}$$

$$A = 1200 \left(1 + \frac{0.02}{12} \right)^{12t}$$

3

17.

$$m = -1$$

$$m \perp \neq 1 \text{ (neg reciprocal)}$$

3

13.

$$V = \frac{1}{3} \pi r^2 h$$

$$\boxed{\frac{3V}{\pi r^2} = h}$$

2

18.

function
 $\{(3,4), (4,3), (5,6), (6,5)\}$

2

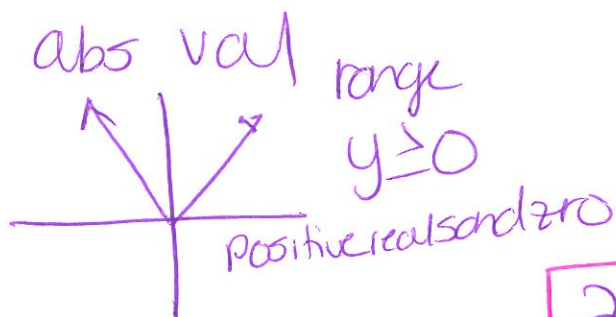
14.

$$\boxed{y = 3x^2 - 4x - 1} \text{ opens up}$$

$$a = 3$$

1

19.



2

15. $f(x) = \sqrt{x}$

shift left

$$\boxed{f(x+3) = \sqrt{x+3}}$$

2

20.

$$\boxed{x^2 - 16}$$
 is product of
2 binomial factors
 $(x-4)(x+4)$

1

21. $y = x^2 - 5x - 6$
 $(x-6)(x+1)$
 ans - key
 wrong

23. $(0,3)$ $(2,4)$
 $\frac{4-3}{2-0} = \frac{1}{2}$

$\boxed{\frac{1}{2}}$

$\sqrt{3}$

22. GCF factoring
 $4x^3 - 5x$ GCF = x
 $5y^2 - 10y$ GCF = $5y$

$\sqrt{3}$

24. $f(x) = 100(0.9)^x$
 exponential decay

$\sqrt{1}$

Part II

25. $3x^2 + x + 1 - (x^2 - 2x + 5)$
 $3x^2 + x + 1 - x^2 + 2x - 5$

$\boxed{2x^2 + 3x - 4}$

26. $f(x) = 3|x-1|$

$f(3) = 3|3-1|$
 $3|2|$
 $3 \cdot 2 = 6$
 $f(3) = 6$

$f(-2) = 3|-2-1|$
 $3|-3|$
 $3 \cdot 3 = 9$
 $f(-2) = 9$

$\frac{f(3) - f(-2)}{3} = \frac{6 - 9}{3} = \frac{-3}{3}$

$\boxed{-1}$

27.

$$\frac{(x+2)}{-4} \geq \frac{(x-7)}{2}$$

$$3x \leq 12$$

$$x \leq 4$$

$$x+2 \leq -2(x-7)$$

$$x+2 \leq -2x+14$$

28.

$$y = -2x^2 + x - 1$$

axis of symm

$$x = \frac{-b}{2a}$$

$$x = \frac{-1}{2(-2)}$$

$$x = \frac{1}{4}$$

29.

$$\frac{(2x^3y)^4}{3x^2(4x^5y^2)}$$

$$= \frac{16x^{12}y^4}{12x^7y^2}$$

$$= \frac{4x^5y^2}{3}$$

30.

h	a
0	100
2	99
4	98
6	97
8	96
10	95
12	94
14	93
16	92

$-\frac{1 \text{ av}}{2 \text{ hr}}$

h	a
18	91
20	90

20 hours x \$9.00/hr = \$180.00

31.

$$36^2 + 48^2 > 72^2$$

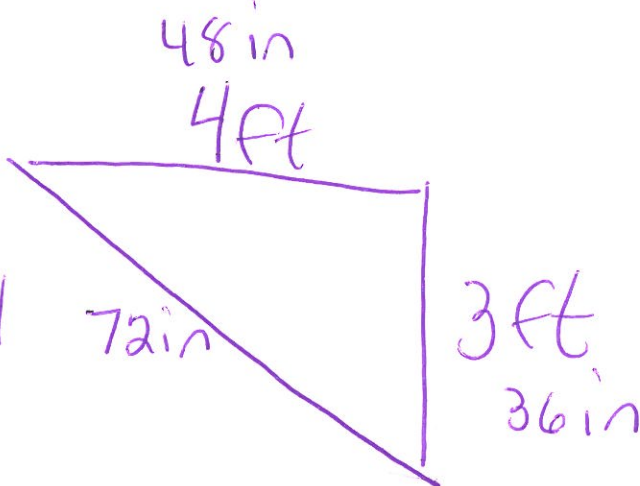
$$1296 + 2304 > 5134$$

no

$$1296 + 2304 > x^2$$

$$\sqrt{3600} = \sqrt{x^2}$$

60 = x 60 inches is largest that will fit



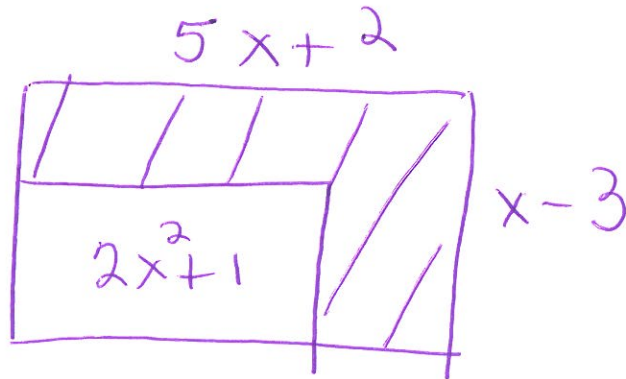
32. $f(x) = 325x - 1000$

x	f(x)
1	-675
2	-350
3	-25
4	300
5	625
6	950
7	1275
8	1600
9	1925
10	2250
11	2575
12	2900

b) $\frac{1}{12}$ or monthly

Part III

33.



Area shaded
 = area big rect -
 area sm rect.

Area big: $A = l \cdot w$
 $(5x+2)(x-3)$

Area sm
 $2x^2+1$

$$5x^2 + 2x - 15x - 6$$

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

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

$$- 2x^2 - 1$$

$$\hline 3x^2 - 13x - 7$$

34.

	Gender		Total
	Boys	Girls	
Creative writing	65	150	215
Visual	70	120	190
News ppr	88	56	144
Graph Des.	74	136	210
total	297	462	759

girls enrolled in visual

a) $\frac{120}{462} \approx 25.97\%$

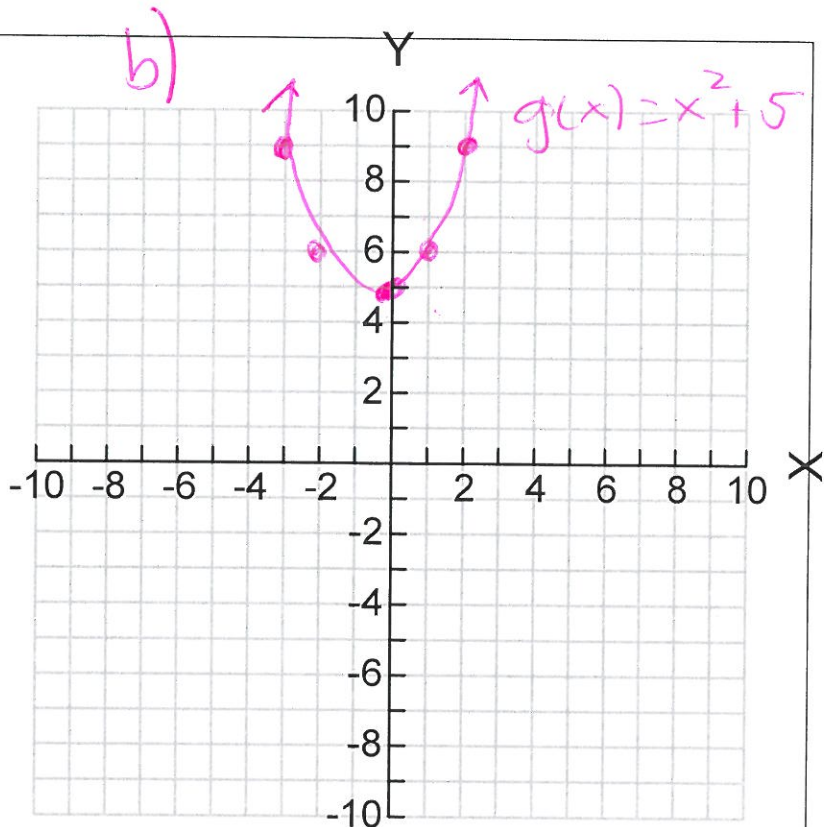
b) $\frac{136}{210} \approx 64.76\%$

% of girls in graphic des.

Part III

35.

a) $g(x) = x^2 + 5$



36.

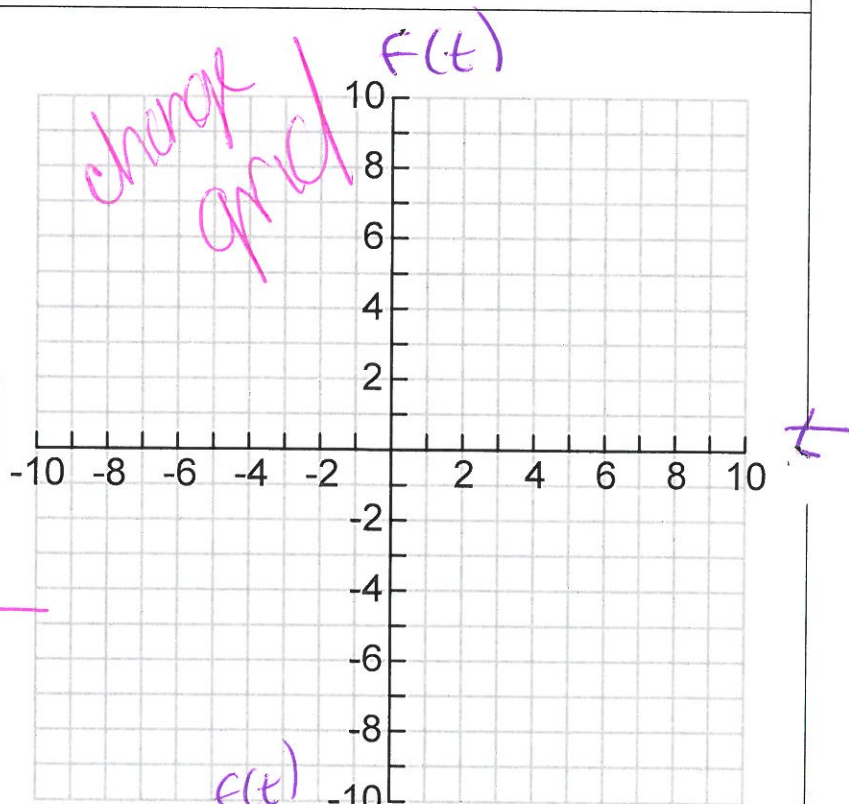
$3.7\% = r$

$1 = n$

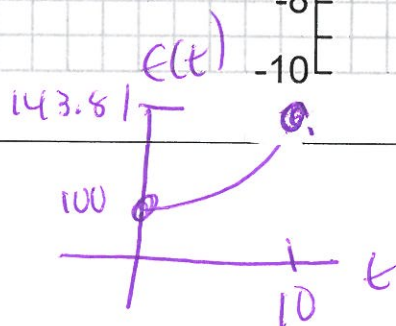
$100 = p$

a) $10 = t$

$F(t) = 100(1.037)^t$



t	$F(t)$	t	$F(t)$
0	100	6	124.36
1	103.7	7	128.96
2	107.54	8	133.73
3	111.52	9	138.68
4	115.64	10	143.81
5	119.92		



Part IV

37.

$x = \text{box cookies}$

$y = \text{lb of asst. fruit}$

$$3x + 5y < 50$$

$$5y < 3x + 50$$

$$y < \frac{3}{5}x + 10$$

$$y \geq 4$$

2 ptz

ans vary

(0, 10) no. cookies, 10 lbs fruit
(2, 5)

$$x \geq 0$$

