Review work

Complete the table and create the algebraic equation for the following tables ~~or graphs~~

x (input)	y (output)
1	-2
2 ×3 -5 1	1
3	4
4 ×3 -5 7	7
5	10
22	61

$3x - 5 = y$

)3
)3
)3
)3
)3

$m = \dfrac{change\,Y}{change\,X}$

$= \dfrac{3}{1}$

$= 3$

$3(22) - 5 = y$
$66 - 5 = y$

x (input)	y (output)
0	22
5	72
10	122
15	172
20	222
120	1222

← b

5<)50
5<)50
)50

$mx + b = y$

$10x + 22 = y$

$m = \dfrac{change\,Y}{change\,X} = \dfrac{50}{5}$

$= 10$

$10(120) + 22 = y$
$1200 + 22 = y$

x (input)	y (output)
5	10
3	14
1	18
-1	20
-1	22
-3	26

$m = \dfrac{change\,Y}{change\,X}$

)+4
)+4

$= \dfrac{4}{-2}$

$= -2$

$-2x + 20 = y$

x (input)	y (output)
1	9
2	12
3	15
4	18
44	138

)-3
)3
)3

$3x + 6 = y$

$3(44) + 6 = y$
$132 + 6 = y$

x (input)	y (output)
31	15
34	18
37	21
40	24
	27

3(
3(
3(

)3
)3
)3

$1x - 16 = y$

| x (input)	y (output)
1	5
2	12
3	19
4	26
10	68

>7
>7
>7

$7x - 2 = y$

$7x - 2^{+2} = 68^{+2}$

$\dfrac{7x}{7} = \dfrac{70}{7}$

$x = 10$

2. Create a table of values for the following equations and graph them on the grid below

3x − 5 = y			10 − 2x = y			4x + 3 = y		
x	y		X	Y		x	Y	
0	−5	3(0) −5	0	10		-2	−5	−8 +3
1	−2	3(1) −5	1	8		-1	−1	
2	1		2	6		0	3	
3	4		3	4		1	7	
4	7		4	2		2	11	

y - axis

3x−5=y

10−2x=y

4x+3=y

x - asis
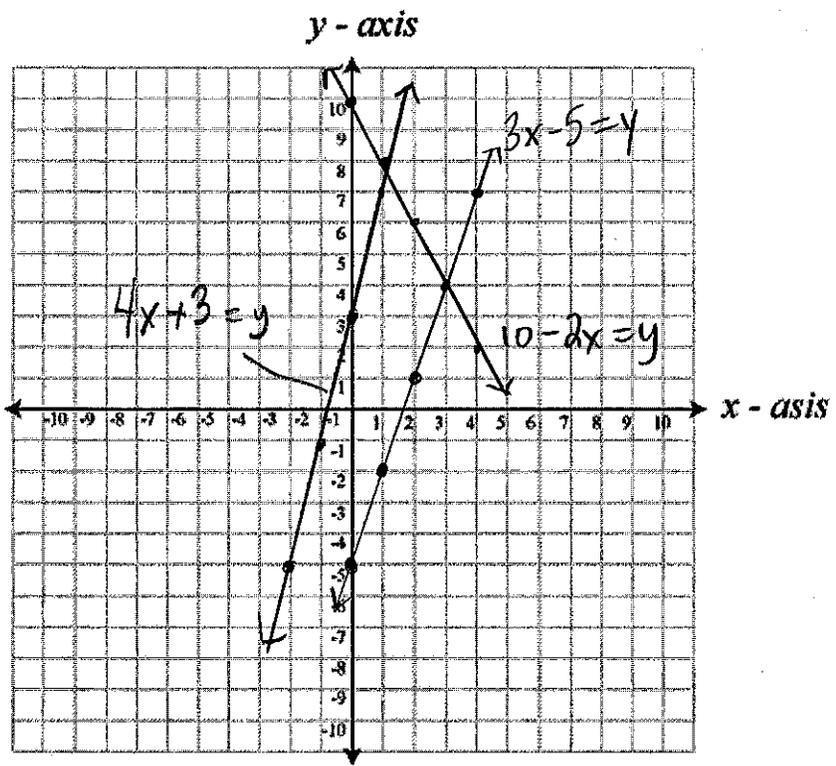
Create the algebraic expression for these graphs below

1) $20h + 50 = T$

h	T	
1	70	+20
2	90	+20
3	110	

b. ✗ (circled) → hard
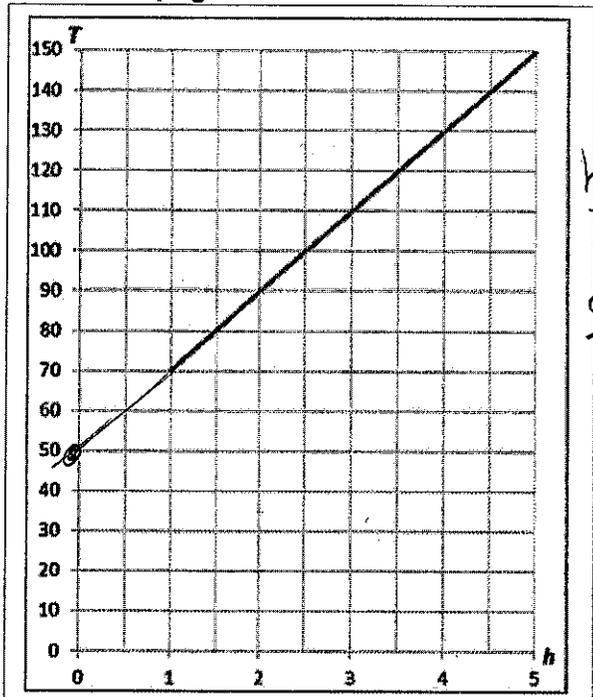
$50x - 98400 = y$
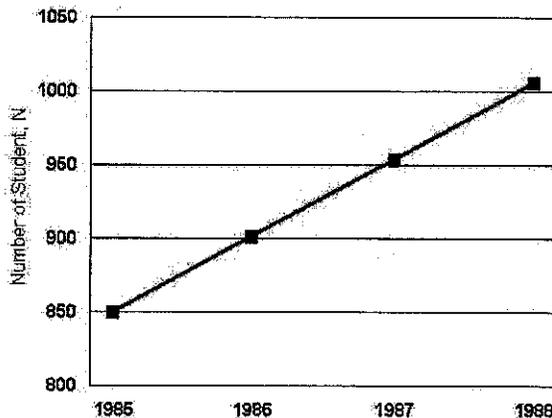
X Time	#students Y
1985	850
1986	900
1987	950

← approx

c.

X	Y	
0	-2	2
2	0	2
4	2	2
6	4	2

$\boxed{1x - 2 = y}$

d.

$(0,5)$
$(3,3)$
$(6,1)$
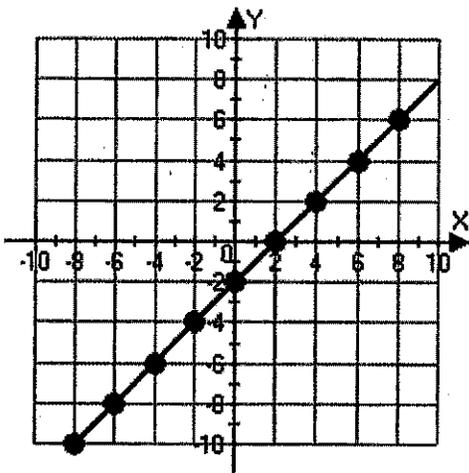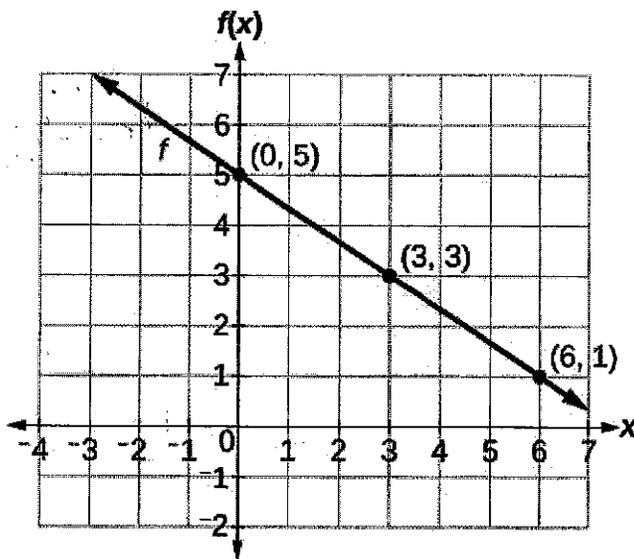
$\boxed{\dfrac{-2}{3}x + 5 = y}$

$m = \dfrac{\text{change } Y}{\text{change } X} = \dfrac{-2}{3}$

X	Y	
0	5	-2
3	3	-2
6	1	-2

For the following word problems show your work by:

1) Creating a table of values to represent what's happening
2) Define the variables
3) Create your algebraic equation (your RULE)
4) Solve the question asked
5) Graph the questions

need a few different ones

1 Kenzie really wants a new swim suit. It costs $275. She currently has $52 saved in her account and received $25 in birthday money. If she works babysitting earning $22 per week, will she have enough money in 12 weeks?	**2** Pizza palace charges a fixed amount for a basic pizza plus an additional cost per topping. They charge $13 for a 4 topping pizza, $16 for a 8 topping pizza and $11.50 for a 2 topping pizza. What would the cost of a 12 topping pizza be?
3 A 2000L pool is draining at a rate of 200L/minute. How many minutes will it take until it's empty? ⊛ challenging one ⊛	**4** You want a new phone and you've researched and discovered that you can have a plan that's $25 flat rate plus $0.30 per minute. A second plan charges a flat rate $42 a month. Create a graph for both these equations on the same grid and explain – 1. which plan you should choose before the lines meet 2. what is means when the lines meet 3. which plan you should choose after they meet

① 52 + 25

week	Total $
0	77
1	99
2	111

> 22
> 22

$22w + 77 = T$

$22(12) + 77 = T$

$341 = T$

∴ yes she would have enough $

②

X # topping	Y Total cost
0	10
2	11.50
4	13
6	14.50
8	16

> add in
> 1.50
> 1.50
← Add in

$m = \dfrac{\text{change } Y}{\text{change } X}$

$= \dfrac{1.50}{2}$

$= 0.75$

$0.75x + 10 = y$

$0.75(12) + 10 = y$

$9 + 10 = y$

$19 = y$

∴ 12 topping pizza is $19

③

X Time (min)	L Y remaining
0	2000
1	1800
2	1600

> -200
> -200

$\boxed{-200x + 2000 = y}$

Q. when will it be empty?

$y = 0$

$-200x + 2000 = 0 \quad {}^{-2000}_{-2000}$

$\dfrac{-200x}{-200} = \dfrac{-2000}{-200}$

$x = 10$

∴ empty in 10 minutes.

④ Option 1

x rep # minutes
y rep total cost

x	y
0	25
10	28
20	31
30	34

Option 2

$y = \$42$

$0.3x + 25 = y$

Total Cost

55
49
43
40
37
31
25

$y = 42$

$y = 0.3x + 25$

0   10   20   30   40   50   60

Minutes spoken
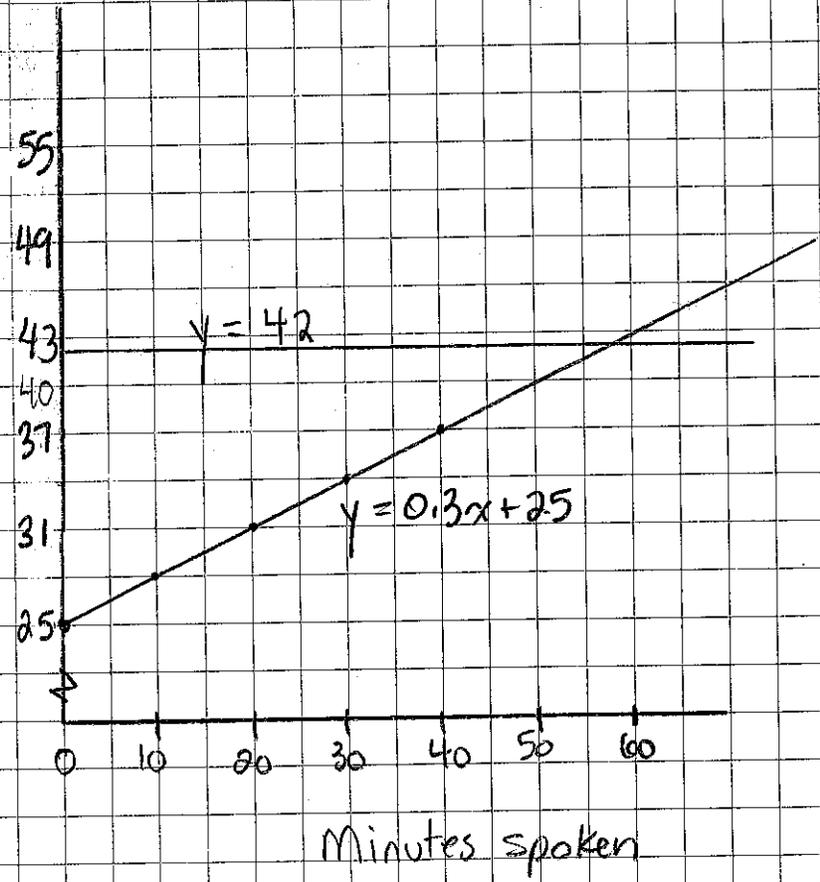
1) Before they meet option 1 is cheaper as is demonstrated on the grid because the line is lower

② When the lines meet both options cost the same amount of $42.

③ after they meet, option 2 Becomes cheaper