

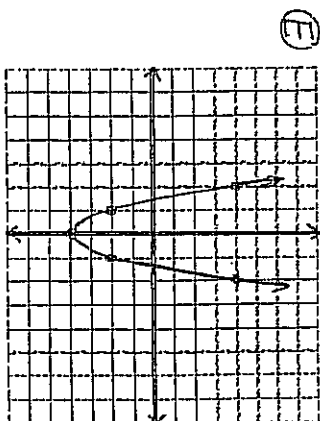
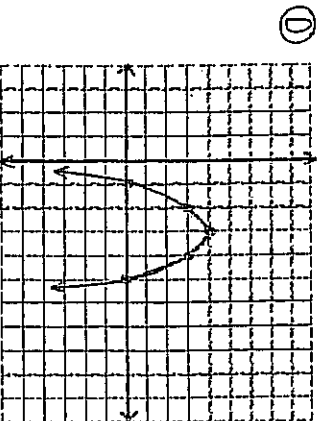
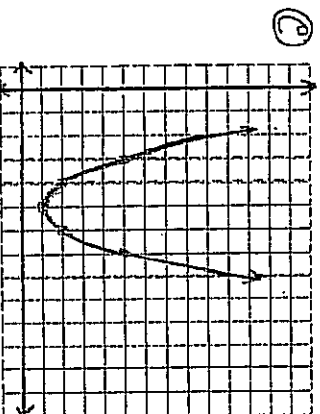
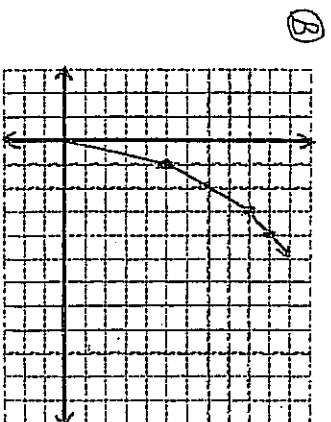
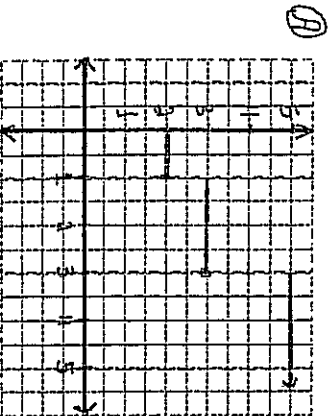


**PRACTICE**

**Part B: Matching** (Time Guide 10 min.) (10 KU Marks)

Write the letter for the graph on the line beside the matching statement. Each graph may be used more than once. (Each correct match is worth 1 mark.)

1. A parabola that opens down.
2. A y-intercept of 2.
3. A parabola with a vertical stretch factor of 2. (i.e. twice as tall)
4. A piecewise linear function.
5. A parabola with no x-intercepts.
6. A parabola with x-intercepts of 1 and 5.
7. A parabola with equation  $y = -(x - 3)^2 + 4$ .
8. A parabola with vertex (5, 1).
9. A car slowing down with a speed of 5m/s, then 2m/s, and then 1m/s.
10. A movie costs \$2 for one night, \$3 for two or three nights, and \$5 for more nights.





6. Determine the measure of each angle, to the nearest degree.

/2KU

a) If  $\sin X = 0.5736$ , then  $X =$

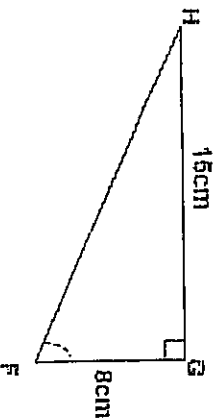
b) If  $\tan Y = 2.7475$ , then  $Y =$

\_\_\_\_\_

\_\_\_\_\_

7. What is the measure of angle F, to the nearest degree?

/2AP



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8. Rearrange the following equations into the given form.

a)  $5x + 4y - 60 = 0$  into  $y = mx + b$

b)  $y = \frac{3}{5}x - 2$  into  $Ax + By + C = 0$

/4KU

a) \_\_\_\_\_

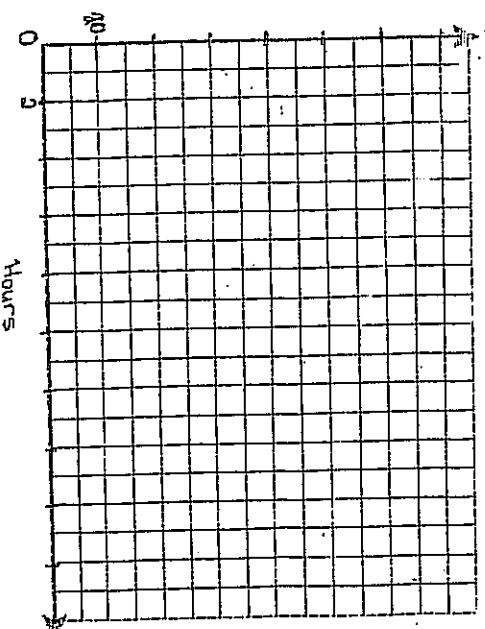
b) \_\_\_\_\_

9. Geoff makes \$6.00 per hour at his after school part-time job. If he works more than 10 hours each week then he is paid time-and-a-half. Create a table of values and a graph showing the possible amounts he could make.

/4AP

Hours	Pay(\$)
0	
5	
10	
15	
20	

9 9 9 9 9



10. Find the x-intercepts for the parabola  $y = x^2 + 3x - 10$ .

/3AP

11. Expand  $y = 3(x + 2)^2 - 7$  and simplify to express in the form  $y = ax^2 + bx + c$ .

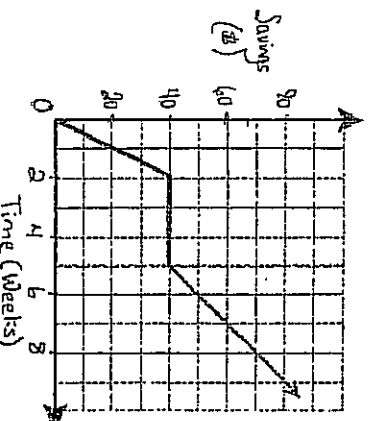
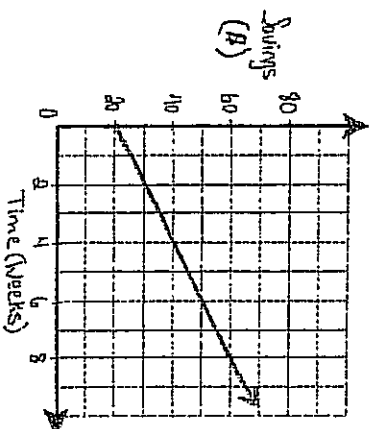
/2KU

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Part D: Full Solution (Time Guide 30 min.) (14 AP & I/CM Marks)Remember to write **SENTENCES** for each part of the following questions.

1. The following graphs illustrate the saving habits for two students for 8 weeks.



/4AP

/6CM

- a) State the y-intercept of each graph.

Greg's \_\_\_\_\_

Jenn's \_\_\_\_\_

- b) What does the y-intercept represent for these graphs?

- c) After 8 weeks, how much has each student saved?

- d) Describe Greg's saving habits.

- e) What does the horizontal section on Jenn's graph represent?

- f) Describe Jenn's saving habits.

2. For Justin's Cool-Cookie Business, it costs him \$2 to make each dozen after paying \$24 for equipment to get started. Justin is able to sell his cookies for \$4 per dozen. If  $C$  represents the cost,  $I$  represents the income, and  $d$  represents the dozens of cookies, then the equations are:

$$\text{Cost: } C = 2d + 24$$

$$\text{Income: } I = 4d$$

Solve this system algebraically to determine how many dozens of cookies Justin must bake and sell in order to break-even?

/3AP

/2CM

Remember to write **SENTENCES** for each part of the following questions.

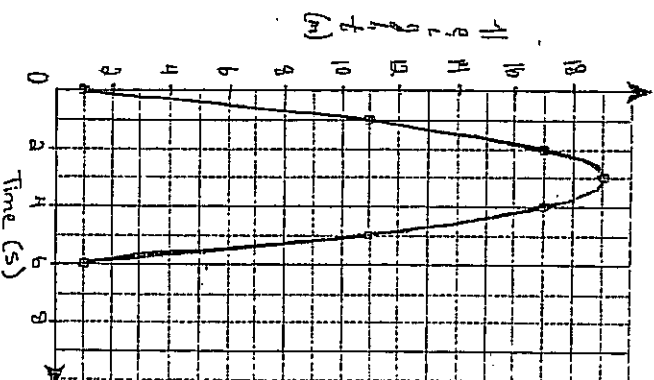
3. A baseball is hit into the air. If  $h$  represents its height in metres and  $t$  represents the time in seconds, then the height of the baseball may be modeled by:

$$h = -2(t - 3)^2 + 19$$

/7AP

/2CM

- a) What are the coordinates of the vertex of the parabola?
- b) What is the maximum height reached by the baseball?
- c) What is the time when the baseball reaches this maximum?
- d) At what time(s) does the ball have a height of 11m?
- e) Why does the parabola have a y-intercept of -1?



- f) At what time is the ball caught if it is caught 1 m above the ground.