

Complete all questions on separate sheet unless otherwise specified. **CLEARLY** show your work when calculations are performed. Attach this sheet to the front. (1 mark each unless specified)

1. Solve each question. Show your work. **No Calculator.**

a) $\frac{3}{5} \times \frac{4}{7}$

b) $\frac{5}{4} + \frac{2}{3}$

c) $4\frac{3}{4} \div 11$

d) $6 \times 5\frac{1}{3}$

e) $4\frac{1}{4} - 5\frac{5}{6}$

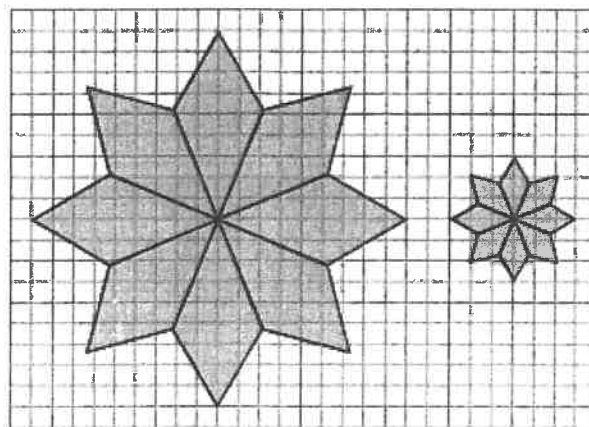


Figure A

Figure B

2. State the scale factor used to create Figure A from Figure B. If the width of Figure A has a measurement of 9.5 cm, what is the width of Figure B? (2 marks)
3. Simplify the following expressions:
- a) $(2m + 3) + (5m + 1)$
- b) $(w^2 - 4w + 7) + (3w^2 + 5w - 3)$
- c) $(9y^2 - 6.8) + (4.3 - 9y - 2y^2)$
- d) $(-7z + 3) - (-4z + 5)$
- e) $(3d - 2d - 7) - (d^2 - 5d + 6cd - 2)$
4. A rectangle has an area represented by the expression $10x^2 - 5x$. If the length of the rectangle is $5x$, what is an expression for the width of the rectangle? Simplify the expression. (2 marks)
5. A population of bacteria doubles every hour. If there are 100 bacteria to start with, how many bacteria are present after:
- a) 3 hours
- b) 7 hours
- c) 1 day
6. Determine the quotient:
- a) $(16t^2 + 8t) \div (0.5t)$
- b) $(-12x^2 - 8xy) \div (4x)$

7. Graph the following linear relations using the y-intercept and slope (Use graph paper and clearly label your lines. State the y-intercept and slope for each. (2 marks each)

a) $y = -2x - 4$

b) $y = 3x$

c) $y = 5$

d) $y = -\frac{2}{3}x + 3$

8. A car mechanic charges a \$35 base fee for labour plus an hourly rate of \$60.

- a) Create a Table of Values for the first 5 hours.
- b) Develop a linear equation to model this situation.
- c) Graph the situation including a proper title (y vs x). (2 marks)

9. Rachel wants to host a Christmas party at a specific hall. This hall charges a flat fee of \$100 plus an additional fee of \$5 per person.

- a) Create a Table of Values for the first 40 people.
- b) Develop a linear equation to model this situation.
- c) Graph the situation including a proper title (y vs x). (2 marks)
- d) Using the graph, what is the cost for 25 people? What process did you use to determine the cost for 25 people?
- e) Using your linear equation, how many people can come to the party for \$1100

Review Assignment #8 KEY

- 1a. $12/35$
- b. $23/12$ or $1 \frac{11}{12}$
- c. $19/44$
- d. 32
- e. $-19/12$ of $-1 \frac{7}{12}$

- 2a. Scale factor of 3
- b. $3.16666 \sim 3.2\text{cm}$

- 3a. $7m + 4$
- b. $4w^2 + w - 4$
- c. $7y^2 - 9y - 2.5$
- d. $-3z - 2$
- e. $-d + 6d + 6cd - 5$

4.
$$\frac{10x^2 - 5x}{5x} = 2x - 1$$

5. If $100(2n)$ = number of bacteria where n = number of hours, then:

- a. 800
- b. 12800
- c. 1677721600

- 6a. $32t + 16$
- b. $-3x - 2y$

7a-d. See attached graphs.

8a.

Hours worked	Cost (\$)
1	95
2	155
3	215
4	275
5	335

b. $y = 60x + 35$

c. See attached graph

9a.

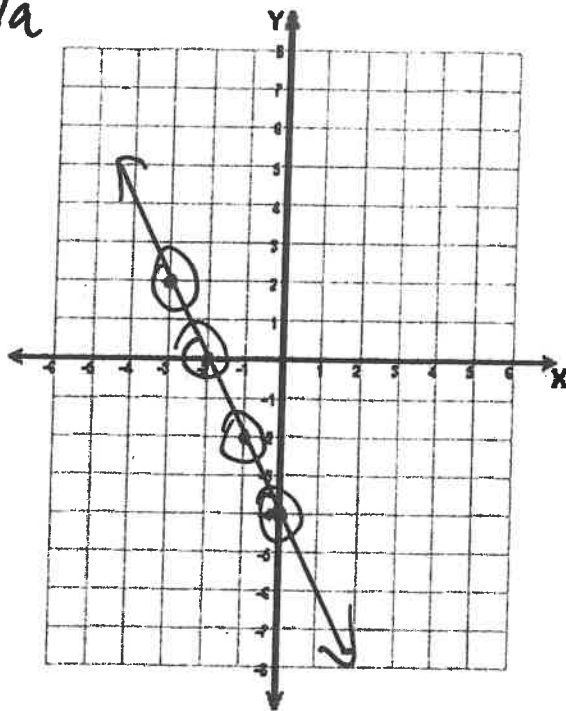
Number of people	Cost (s)
10	150
20	200
30	250
40	300

b. $y = 5x + 100$

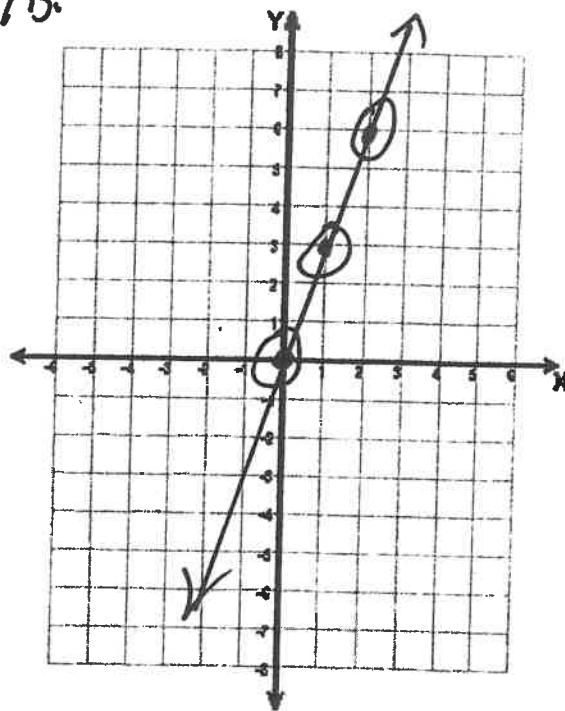
c. See attached graph

d. \$225. This was determined using interpolation.

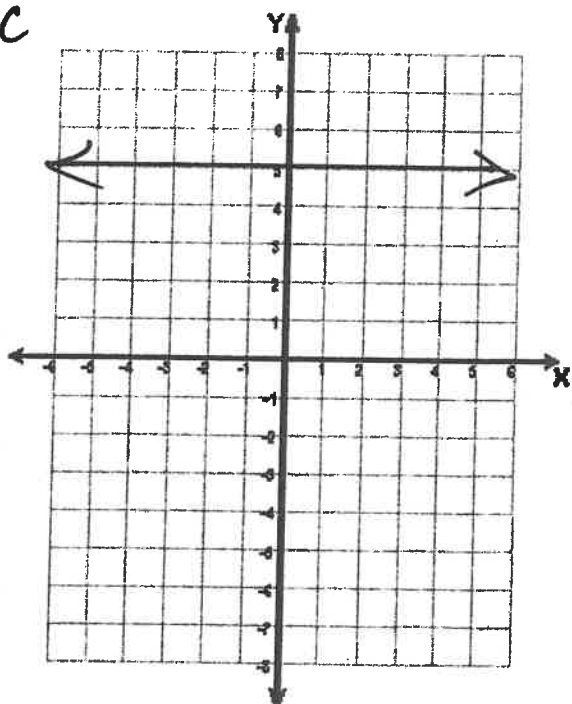
7a $y = -2x - 4$



7B. $y = 3x$

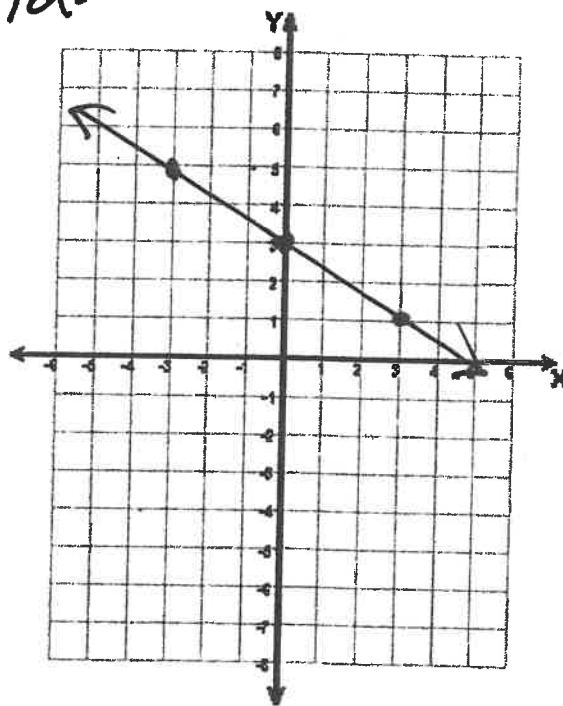


7c



$y = 5$

7d.

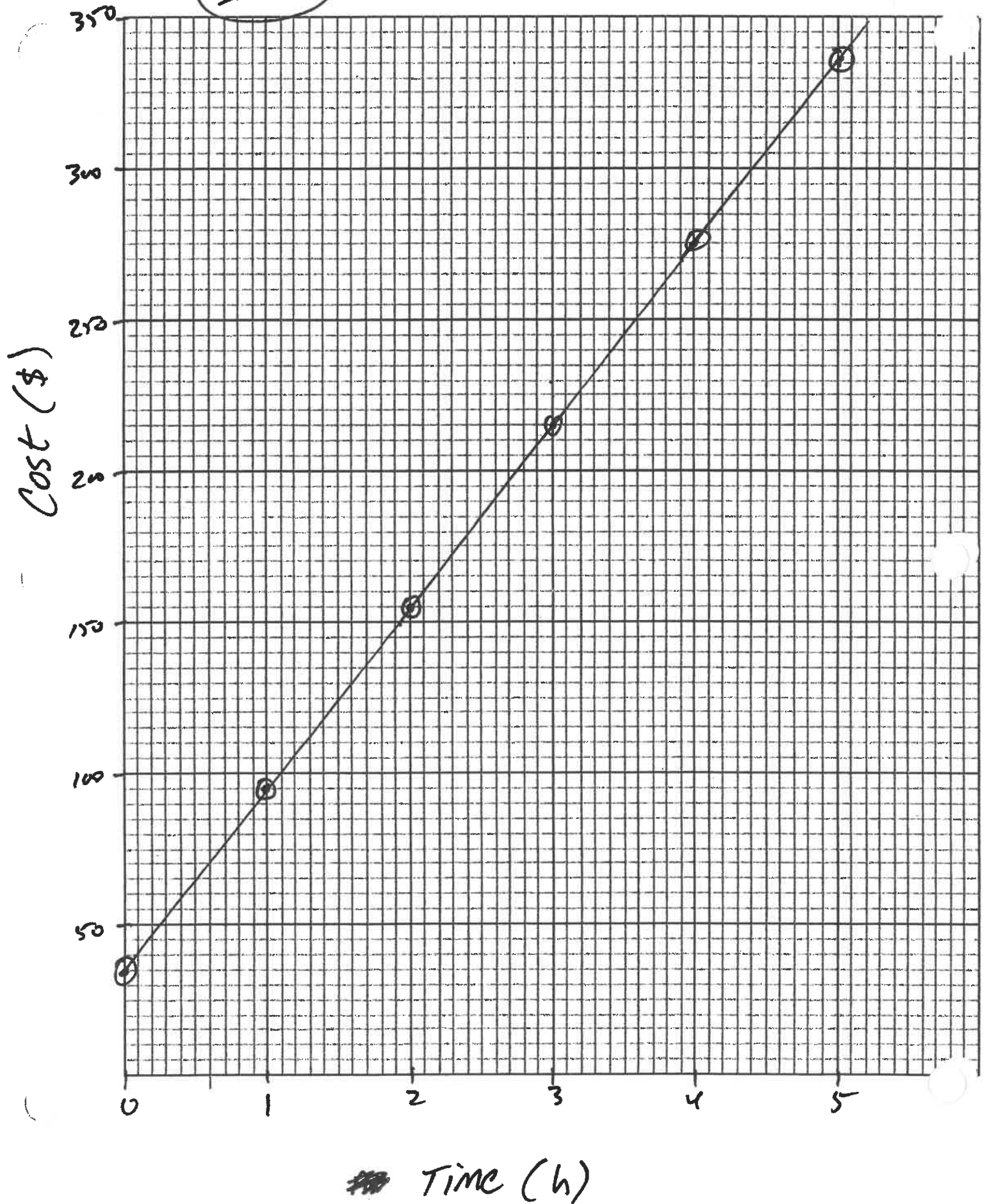


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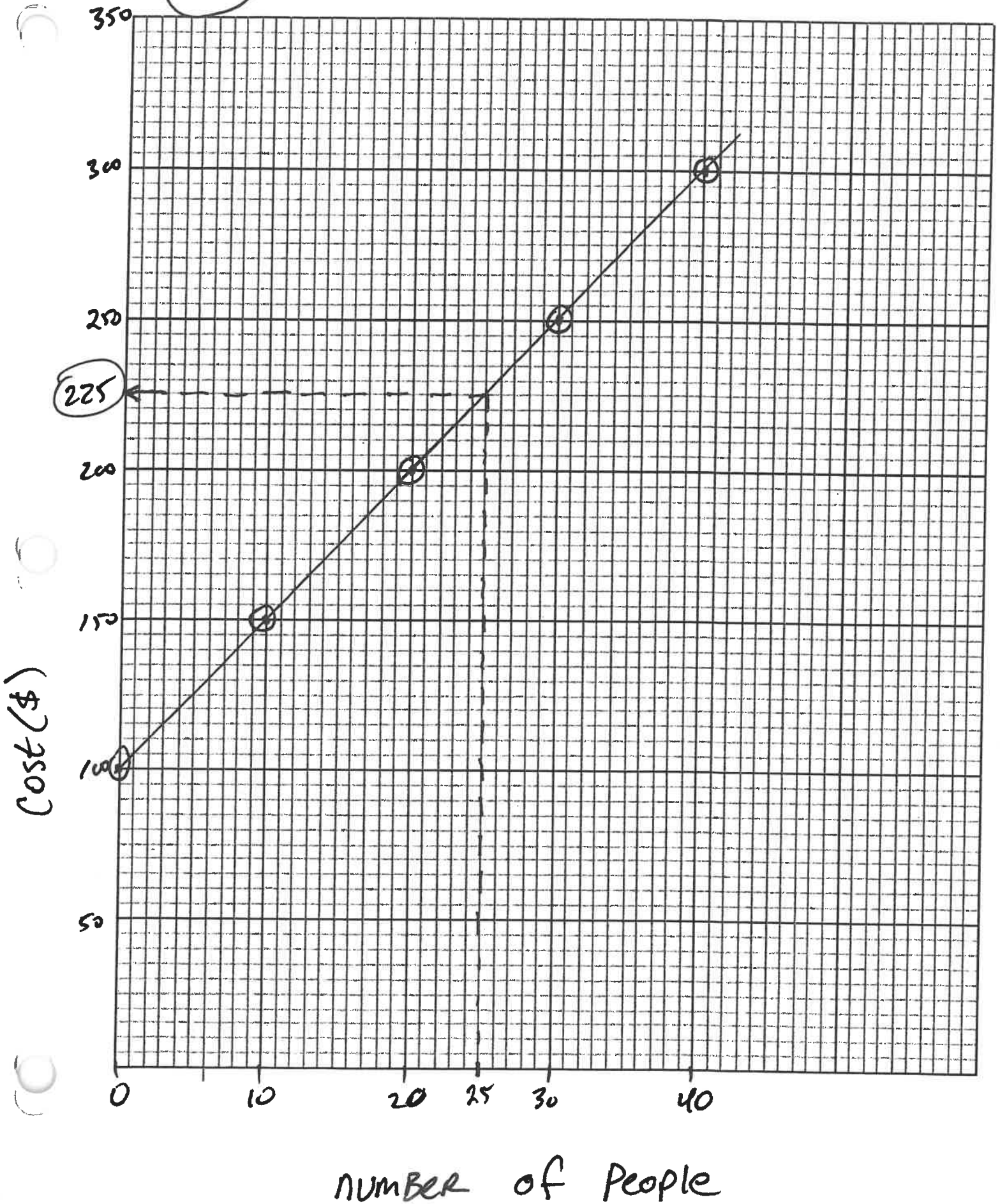
$y = -\frac{2}{3}x + 3$

Cost (\$) VS Time (h) for a Car Mechanic

#8C



Number of people at Christmas party
#9C vs cost (\$)



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