

**Part 2**

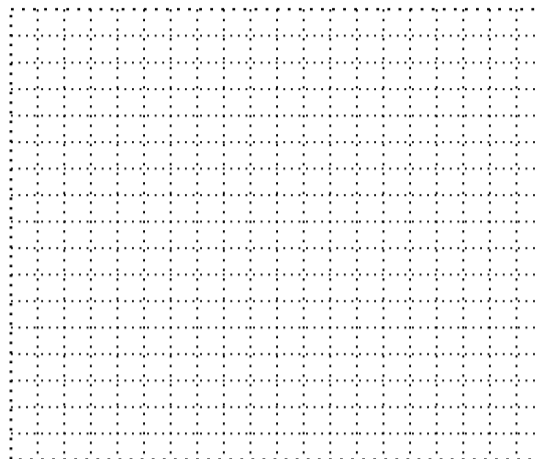
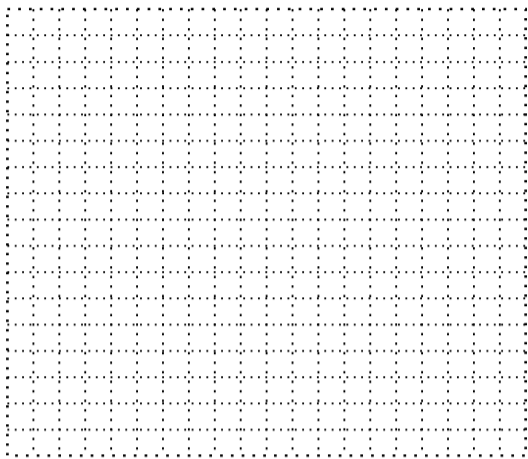
**Constructed Response:** Answer all questions and show all workings.

1 Graph the following lines.

A  $y = -\frac{3}{5}x - 4$

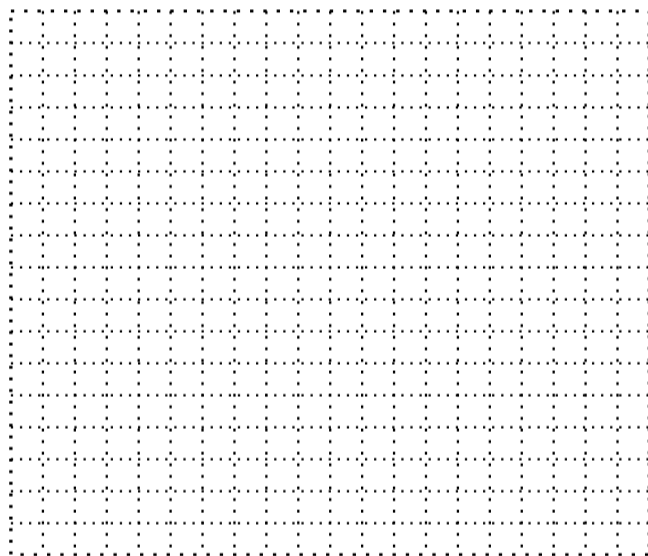
B  $x = 3$

(5)



2 A Graph the equations  $y = 2x + 4$  and  $y = -x + 7$  on the same axis.

(4)



B What are the coordinates of the point of intersection?

(2)

C Shade in the triangle formed by the two lines and the x-axis. Determine the area of this triangle.

(4)

3 A taxi company will rent out a car based on a fee of \$20 plus \$0.10 per kilometer.

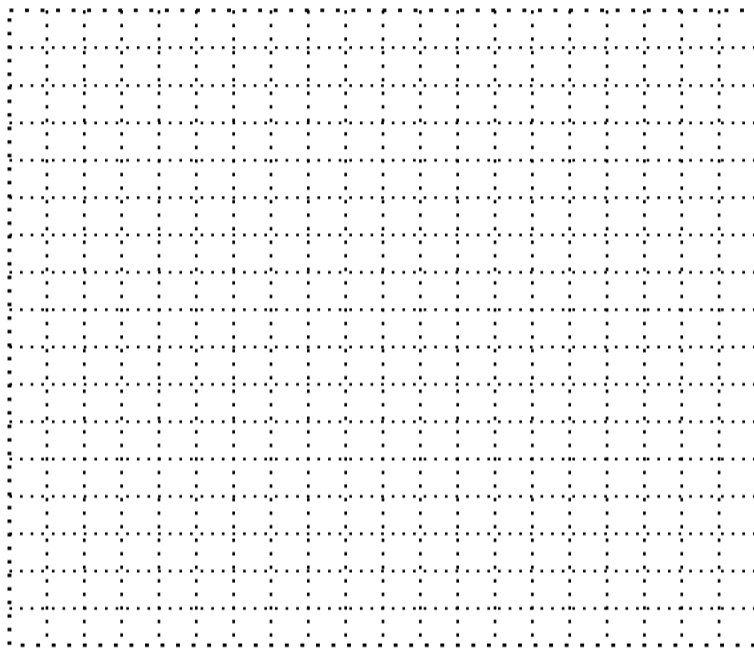
A Let  $C$  represent the cost of the car and  $k$  represent the number of kilometers. Write an equation to relate  $C$  and  $k$ . (2%)

B Create a table of values which describes the relation between the number of kilometers and the cost of the car rental. (3%)

$k$ (km)	0	5	10	15	20	25
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$C$ (\$)						
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C Draw a graph of the relationship. **Be sure to state what each axis represents.** (4%)



D Find the total cost if the car was driven a total of 178 km. (3%)

E What is the  $C$ -intercept and what does it represent? (3)

F What is the slope and what does it represent? What are the units for the slope? (3)

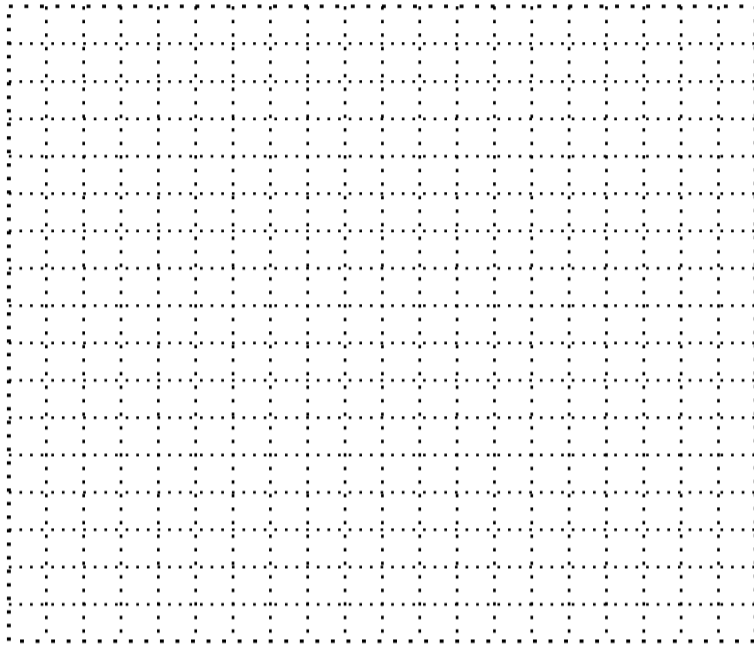
G How would the graph and equation change if the basic fee was increased to \$50? (2)

H How would the graph and the equation change if the charge per kilometer was increased by 5 cents? (2)

4 Two internet companies have different plans. Free Connect charges a base fee of \$20 a month and \$1 per hour of use. Rippuoff charges \$10 per month and \$2 per hour.

A Write an equation to represent the cost for each company for internet service. State what each variable represents. ( i.e  $x =$  and  $y =$  )

B Graph each relation on the graph below.



C What is the point of intersection? What does it represent? (2)

D If you use the internet for 20 hours a month, which company would you choose? Why? (2)

5 A line passes through  $D(-5, 4)$ . The run is 3. The rise is either 2 or - 2. When the line crosses the x-axis, the x-coordinate is positive. Write the equation of the line.