868

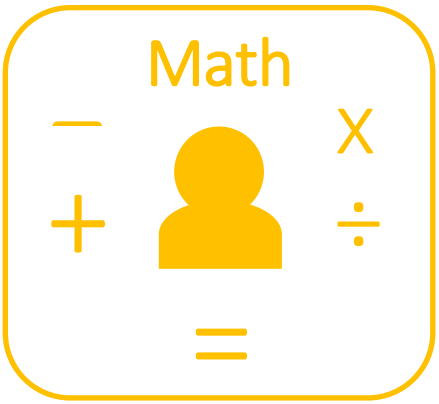
868TUTORS

TUTORS

Preparation for

High School Mathematics

Quadratic Graphs



Instructions and Tips:

- ✓ **You have 90 minutes to complete this worksheet**
- ✓ **This worksheet consists of 7 questions**
- ✓ **Write answers in the spaces provided**
- ✓ **All working must be clearly shown**
- ✓ **Label Graphs properly**
- ✓ **Draw Smooth Curves**

Student Name: _____

Student ID: _____

Date: _ _ / _ _ / _ _ _ _

Total Score:

Highest Score:

Tutor's Comments:

Question 1

Consider the quadratic function: $y = x^2 + 4x + 4$.

x	-5	-4	-3	-2	-1	0	1
y				0			9

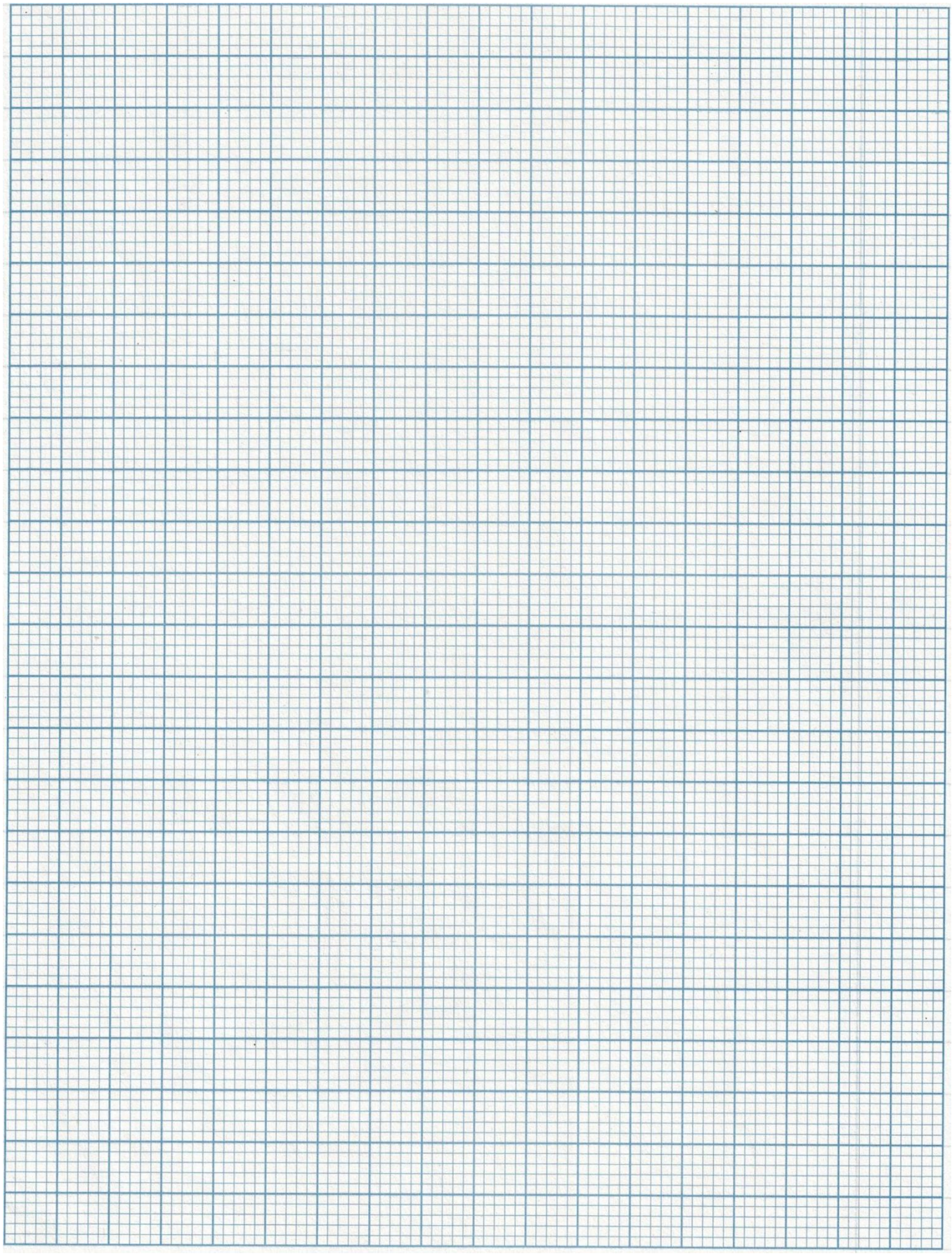
(a) Complete the table above for: $y = x^2 + 4x + 4$.

(4 marks)

(b) On the graph paper on the next page, draw the graph of

$y = x^2 + 4x + 4$ using the table above. Use a scale of 2 cm = 1 unit on the x-axis and 1 cm = 1 unit on the y-axis.

(6 marks)



Question 2

Consider the quadratic function: $y = x^2 + 3x + 2$.

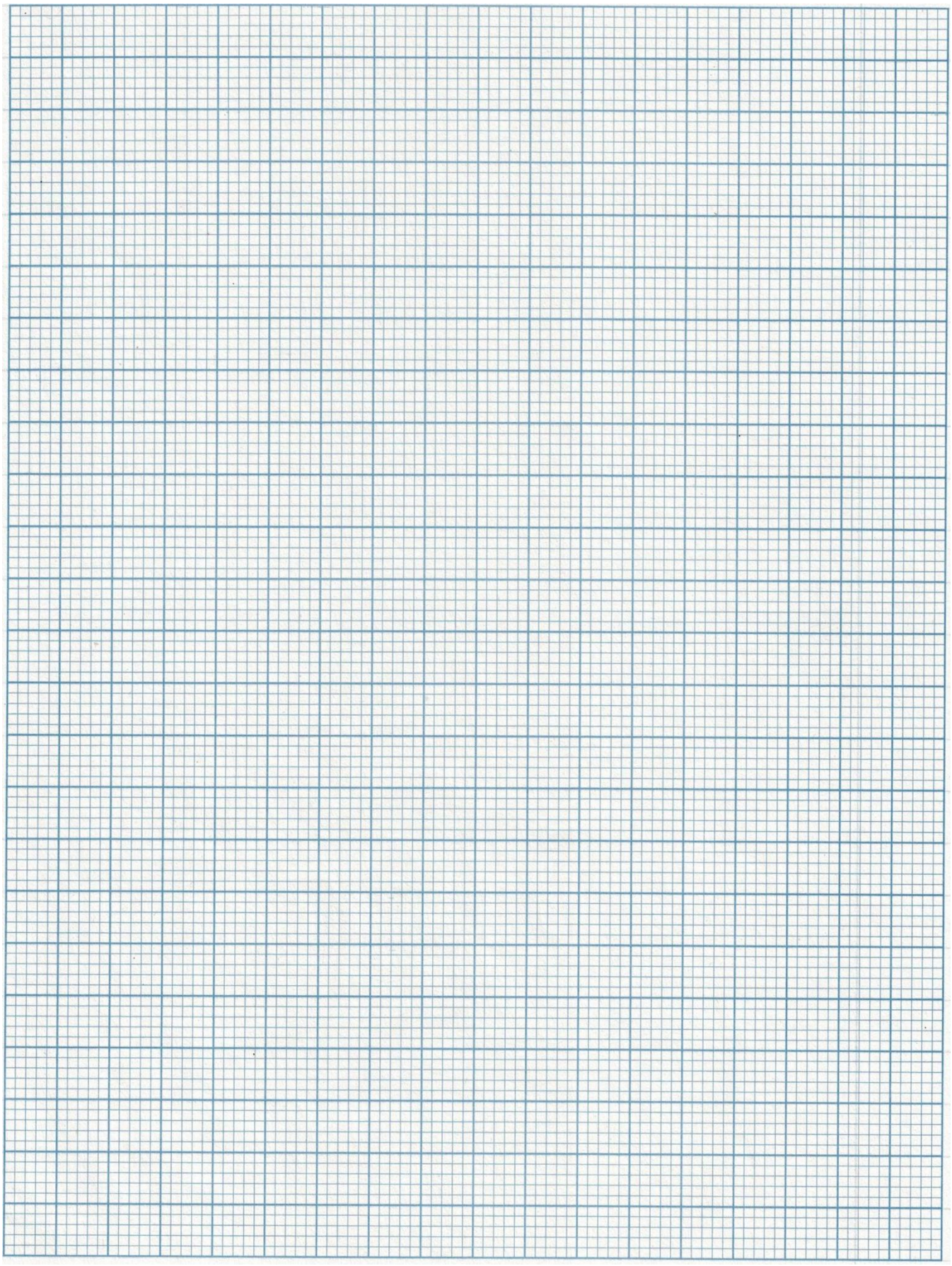
x	-5	-4	-3	-2	-1	0	1	2
y			2					12

(a) Complete the table above for: $y = x^2 + 3x + 2$.

(4 marks)

(b) On the graph paper on the next page , draw the graph of $y = x^2 + 3x + 2$ using the table above. Use an appropriate scale.

(6 marks)



Question 3

Consider the quadratic function: $y = -x^2 + x + 2$.

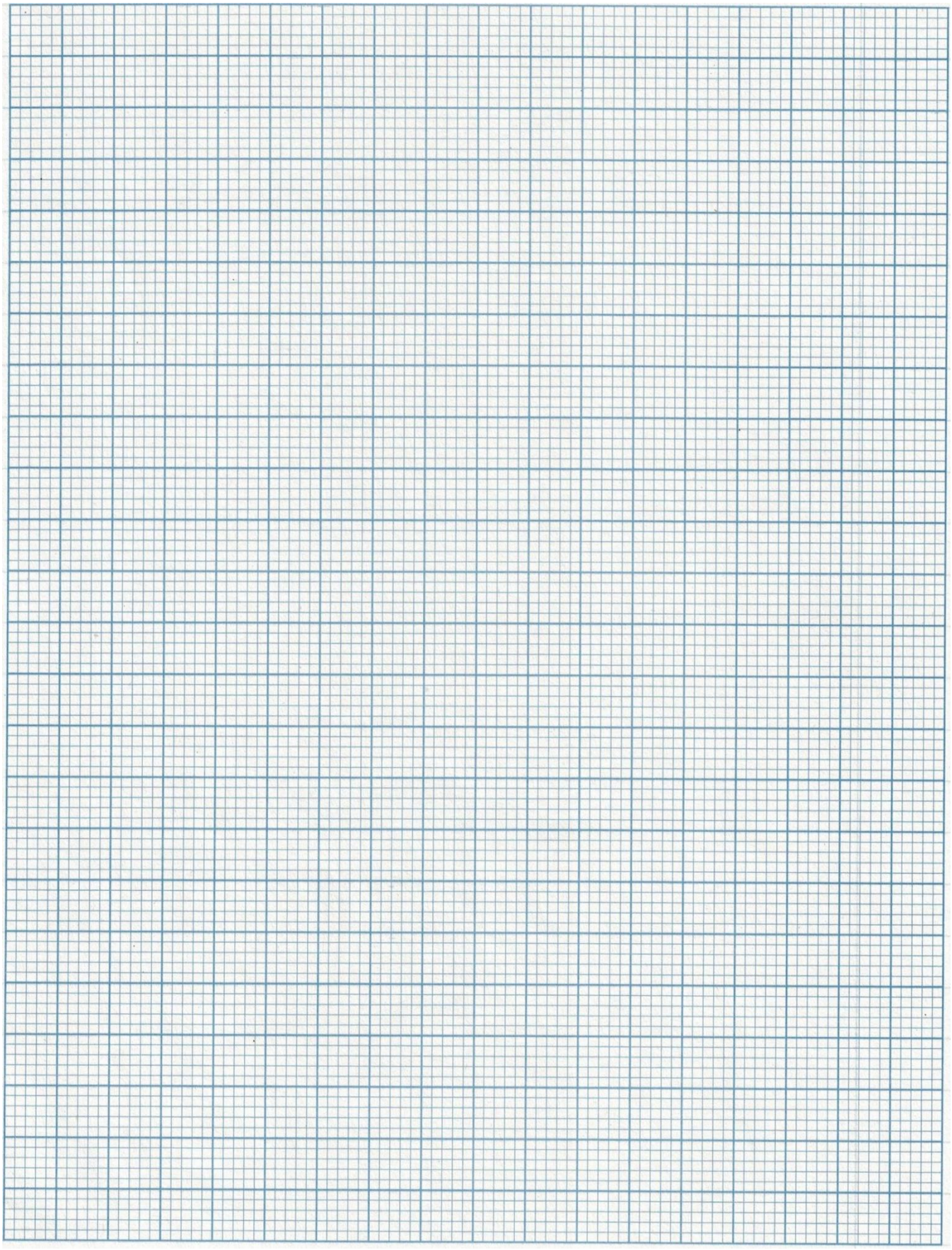
x	-3	-2	-1	0	1	2	3	4
y	-10					0		

(a) Complete the table above for: $y = -x^2 + x + 2$.

(4 marks)

(b) On the graph paper on the next page, draw the graph of $y = -x^2 + x + 2$ using the table above. Use an appropriate scale.

(6 marks)



Question 4

Consider the quadratic function: $y = -x^2 + 2x + 3$.

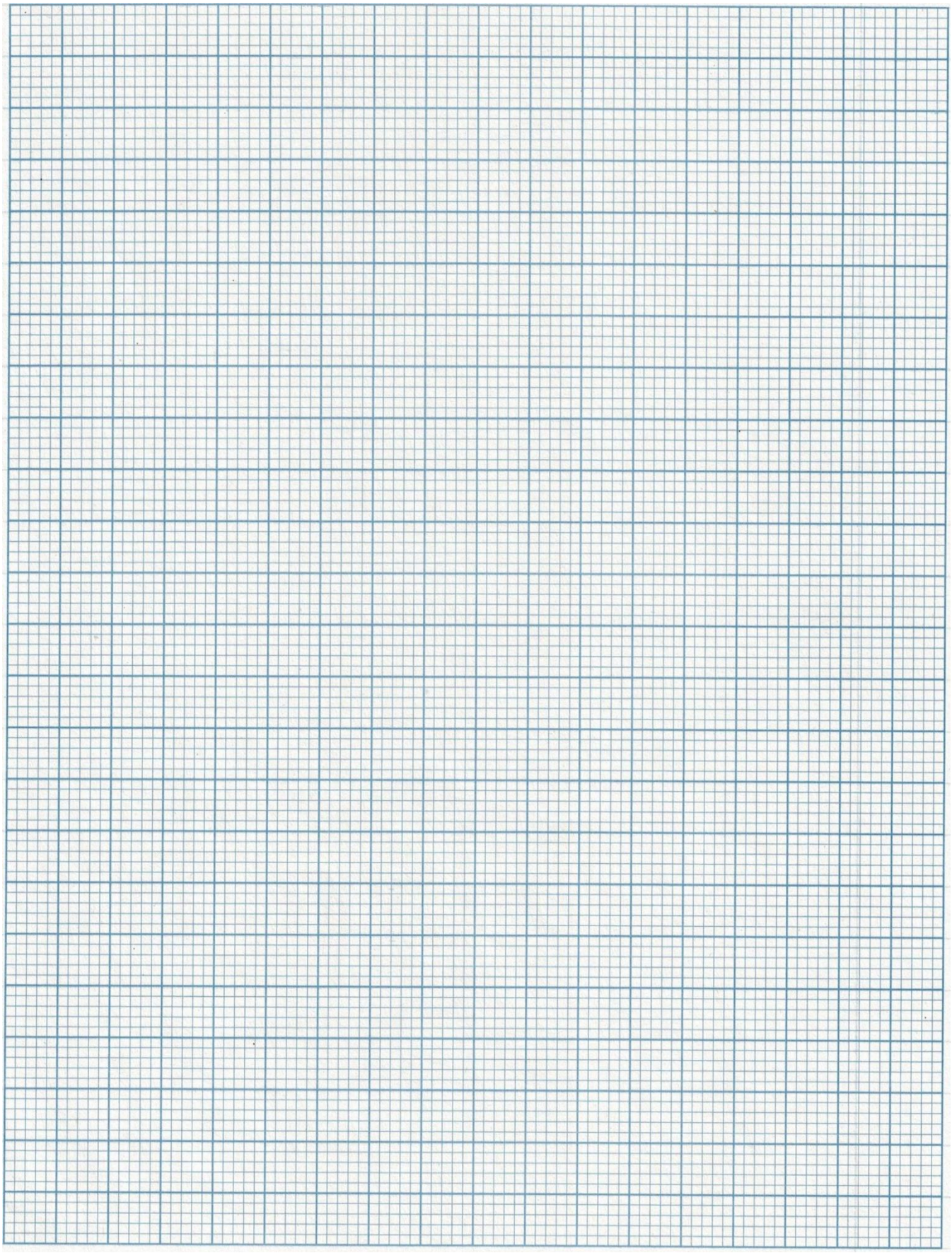
x	-2	-1	0	1	2	3	4	5
y	-5			4				

(a) Complete the table above for: $y = -x^2 + 2x + 3$.

(5 marks)

(b) On the graph paper on the next page, draw the graph of $y = -x^2 + 2x + 3$ using the table above. Use an appropriate scale.

(6 marks)



Question 5

Consider the quadratic function: $y = x^2 + 5x + 6$.

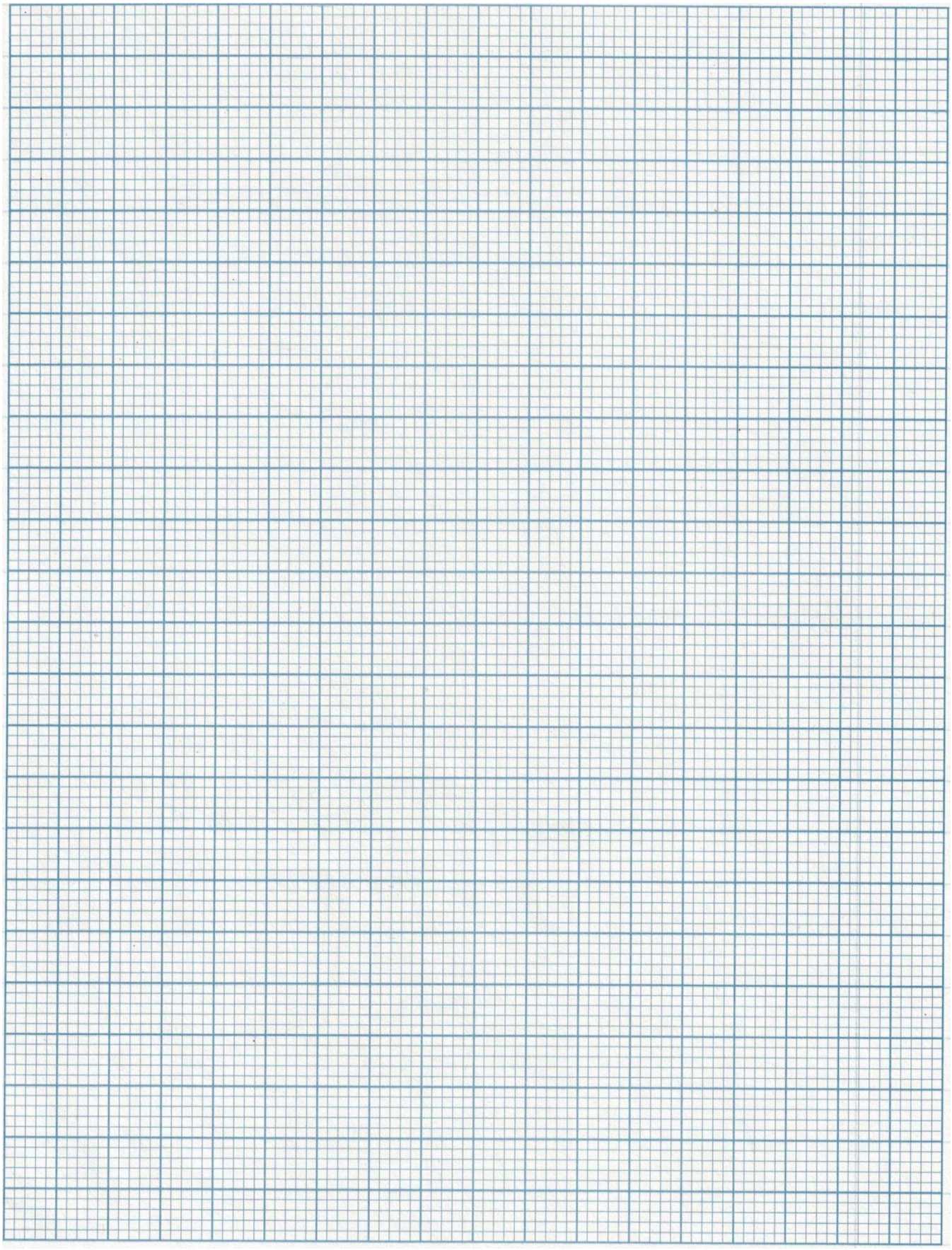
x	-6	-5	-4	-3	-2	-1	0	1
y								

(a) Complete the table above for: $y = x^2 + 5x + 6$.

(7 marks)

(b) On the graph paper on the next page, draw the graph of $y = x^2 + 5x + 6$ using the table above. Use an appropriate scale.

(6 marks)



Complete the following statements using information from your graph.

(c) The values of x for which $x^2 + 5x + 6 = 0$ occur are at _____

and _____

(2 marks)

(d) The equation of the axis of symmetry of the graph $y = x^2 + 5x + 6$ is

_____

(2 marks)

(e) The minimum value of $x^2 + 5x + 6$ is _____

(1 mark)

(f) The name of the graph of a quadratic function is a _____

(1 mark)

Question 6

Consider the quadratic function: $y = x^2 - 5x + 4$.

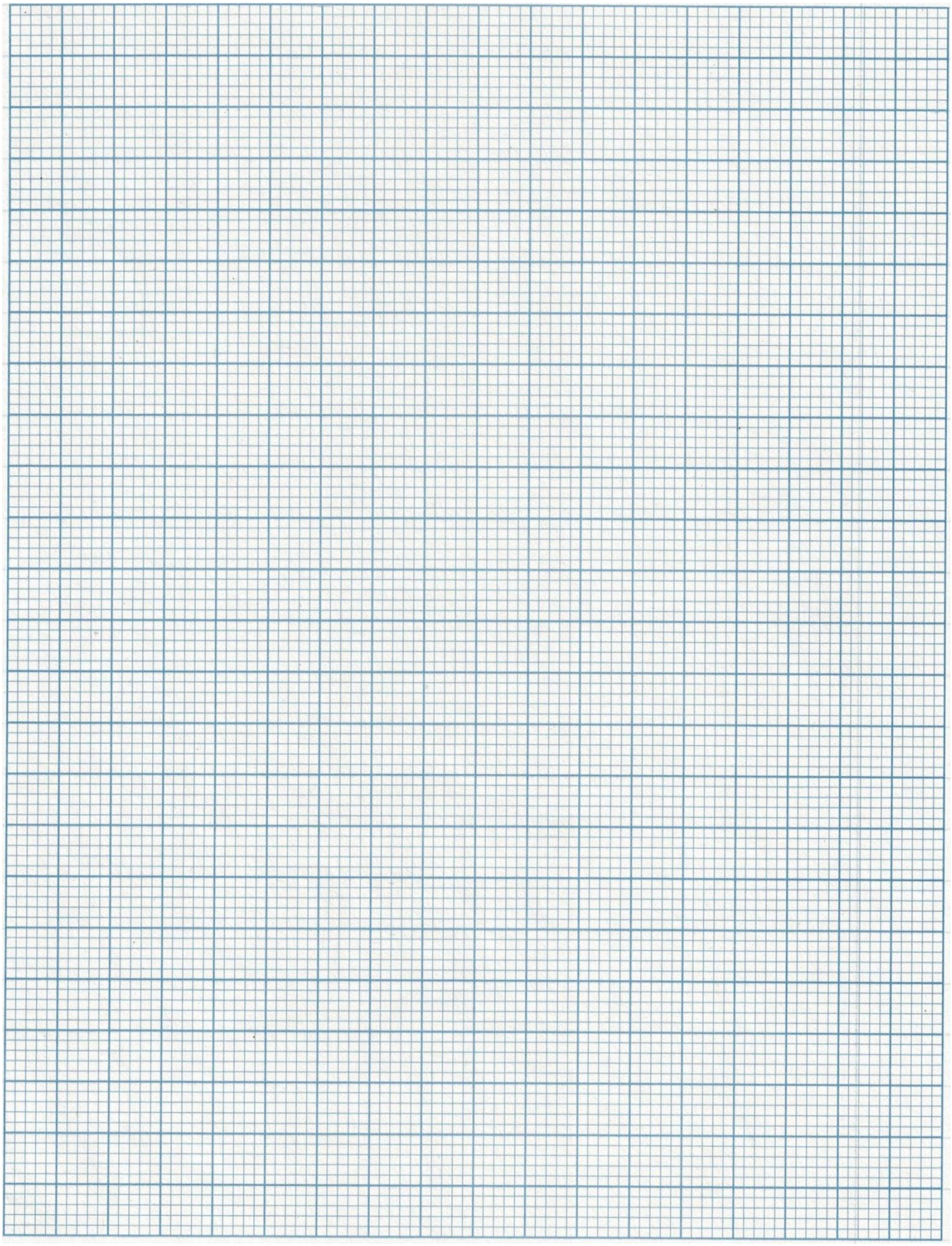
x	-1	0	1	2	3	4	5	6
y								

(a) Complete the table above for: $y = x^2 - 5x + 4$.

(10 marks)

(b) On the graph paper on the next page , draw the graph of $y = x^2 - 5x + 4$ using the table above. Use an appropriate scale.

(6 marks)



Complete the following statements using information from your graph.

(c) The values of x for which $x^2 - 5x + 4 = 0$ occur are at _____

and _____

(2 marks)

(d) The equation of the axis of symmetry of the graph $y = x^2 - 5x + 4$ is

_____

(2 marks)

(e) The minimum value of $x^2 - 5x + 4$ is _____

(1 mark)

(f) The name of the graph of a quadratic function is a _____

(1 mark)

Question 7

Consider the quadratic function: $y = -x^2 + x + 2$.

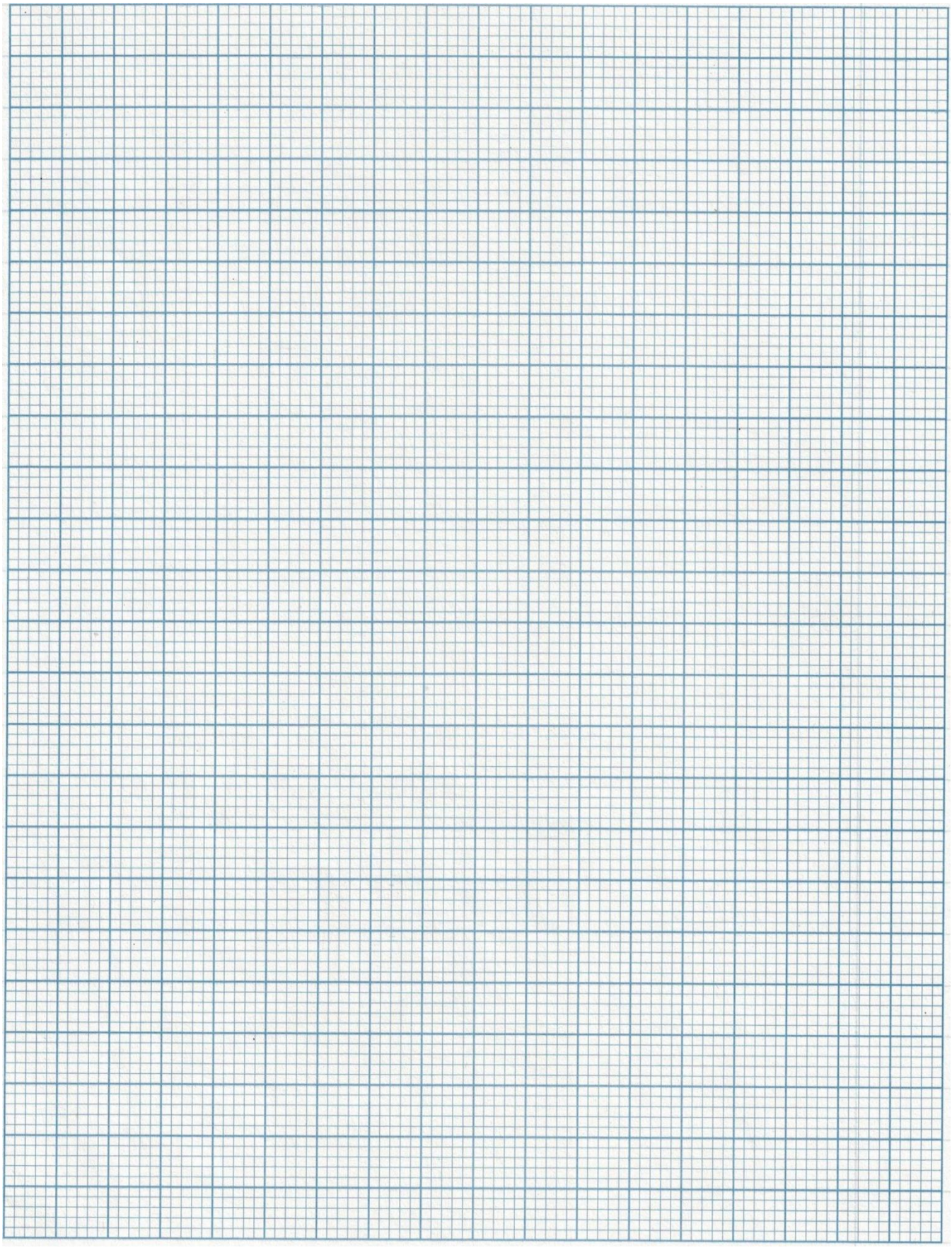
x	-3	-2	-1	0	1	2	3	4
y								

(a) Complete the table above for: $y = -x^2 + x + 2$.

(8 marks)

(b) On the graph paper on the next page, draw the graph of $y = -x^2 + x + 2$ using the table above. Use an appropriate scale.

(6 marks)



Complete the following statements using information from your graph.

(c) The values of x for which $-x^2 + x + 2 = 0$ occur are at _____

and _____

(2 marks)

(d) The equation of the axis of symmetry of the graph $y = -x^2 + x + 2$ is

_____

(2 marks)

(e) The maximum value of $-x^2 + x + 2$ is _____

(1 mark)

(f) The name of the graph of a quadratic function is a _____

(1 mark)

END OF WORKSHEET

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