

Plotting Quadratic Graphs – Create-a-Picture

For each of the following equations, complete the table of values and plot the graph of the equation between the x -values given. Give y -coordinates to 2 decimal places where appropriate.

1. $y = \frac{x^2}{8} + 8 \quad \{-4 \leq x \leq 4\}$

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

2. $y = \frac{x^2}{4} - 2x + 14 \quad \{0 \leq x \leq 4\}$

x	0	0.5	1	1.5	2	2.5	3	3.5	4
y									

3. $y = \frac{x^2}{4} + 2x + 14 \quad \{-4 \leq x \leq 0\}$

x	-4	-3.5	-3	-2.5	-2	-1.5	-1	-0.5	0
y									

4. $y = \frac{x^2}{4} - 3x + 13 \quad \{2 \leq x \leq 6\}$

x	2	2.5	3	3.5	4	4.5	5	5.5	6
y									

5. $y = \frac{x^2}{4} + 3x + 13 \quad \{-6 \leq x \leq -2\}$

x	-6	-5.5	-5	-4.5	-4	-3.5	-3	-2.5	-2
y									

6. $y = \frac{x^2}{12} + 1 \quad \{-6 \leq x \leq 6\}$

x	-6	-4	-2	0	2	4	6
y							

7. $y = \frac{x^2}{4} - 4x + 14 \quad \{4 \leq x \leq 8\}$

x	4	4.5	5	5.5	6	6.5	7	7.5	8
y									

8. $y = \frac{x^2}{4} + 4x + 14 \quad \{-8 \leq x \leq -4\}$

x	-8	-7.5	-7	-6.5	-6	-5.5	-5	-4.5	-4
y									

9. $y = \frac{x^2}{16} - 6 \quad \{-8 \leq x \leq 8\}$

x	-8	-6	-4	-2	0	2	4	6	8
y									

Now add the following straight lines:

10. $y = -9 \quad \{-2 \leq x \leq 2\}$

11. $x = -2 \quad \{-9 \leq y \leq -6\}$

12. $x = 2 \quad \{-9 \leq y \leq -6\}$

Finally, colour in your picture!

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