Drawing parabola from given equation

Mana Maths

Te reo Māori terms

whārite pūrua
quadratic equation
Open in Te Aka

kauwhata
graph
Open in Te Aka

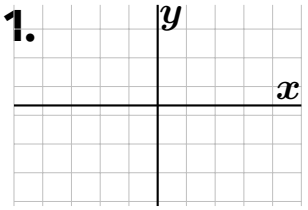
taunga
coordinate
Open in Te Aka

tēpara
table
Open in Te Aka

Drawing parabola from given equation — Foundation

Use the numbered blank grids. For each one, make a table of values, plot the points, then draw the parabola.

1.



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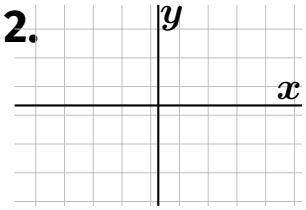

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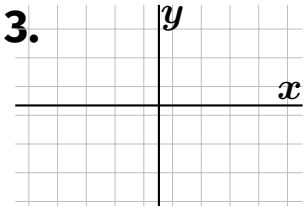

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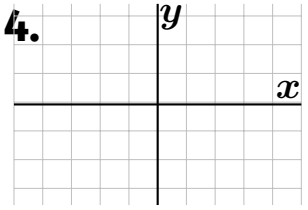

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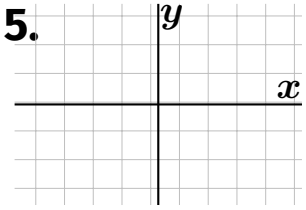

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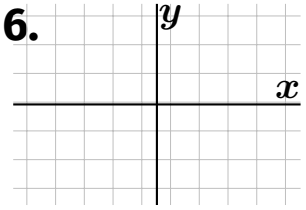

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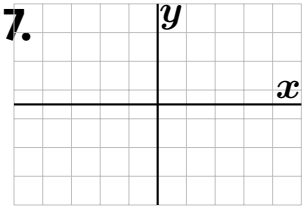

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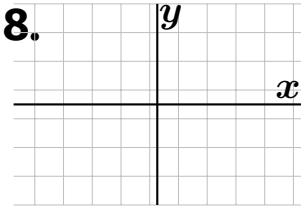

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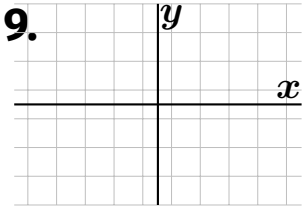

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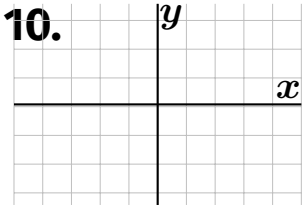

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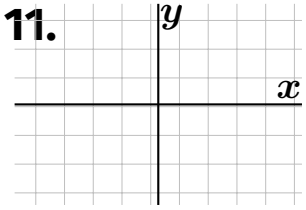

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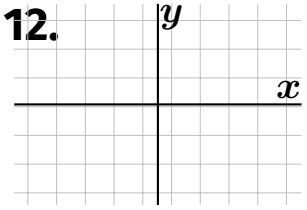


1. Draw $y = x^2$. **2.** Draw $y = x^2 + 1$. **3.** Draw $y = x^2 - 2$. **4.** Draw $y = (x - 1)^2$.

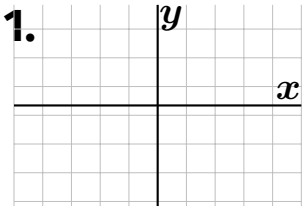
5. Draw $y = (x+2)^2$. **6.** Draw $y = -x^2$. **7.** Draw $y = -x^2 + 3$. **8.** Draw $y = 2x^2$.

9. Draw $y = \frac{1}{2}x^2$. **10.** Draw $y = x^2 + 2x$. **11.** Draw $y = x^2 - 4x$. **12.** Draw $y = x^2 + 4x + 3$

Drawing parabola from given equation — Proficient

Use the numbered blank grids. Draw each parabola carefully and label the turning point.

1.



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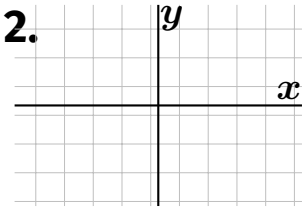

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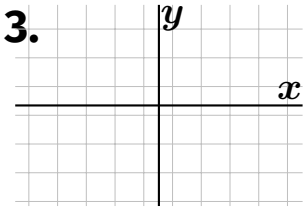

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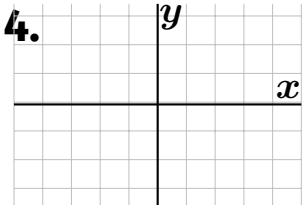

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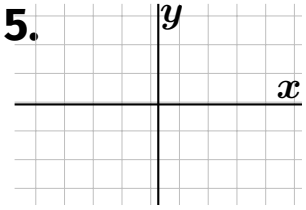

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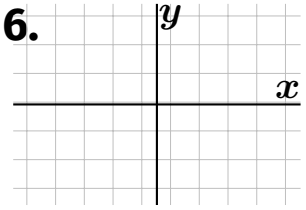

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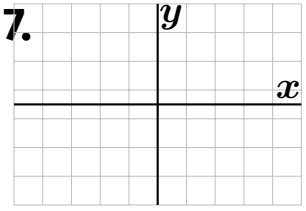

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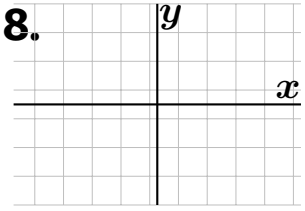

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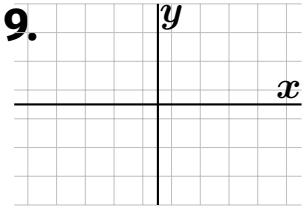

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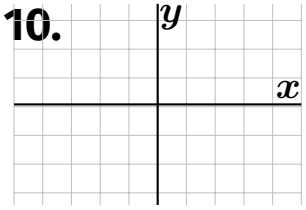

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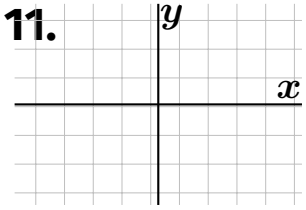

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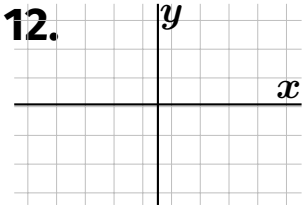


1. Draw $y = (x - 2)^2 - 1$. Label the turning point.

2. Draw $y = (x + 3)^2 + 2$. Label the turning point.

3. Draw $y = -(x - 1)^2 + 4$. Label the turning point.

4. Draw $y = 2(x+1)^2 - 2$. Label the turning point.

5. Draw $y = -\frac{1}{2}(x-2)^2 + 3$. Label the turning point.

6. Draw $y = x^2 - 2x - 3$. Label the turning point.

7. Draw $y = x^2 + 4x + 1$. Label the turning point.

8. Draw $y = -x^2 + 2x + 3$. Label the turning point.

9. Draw $y = 2x^2 - 4x - 6$. Label the turning point.

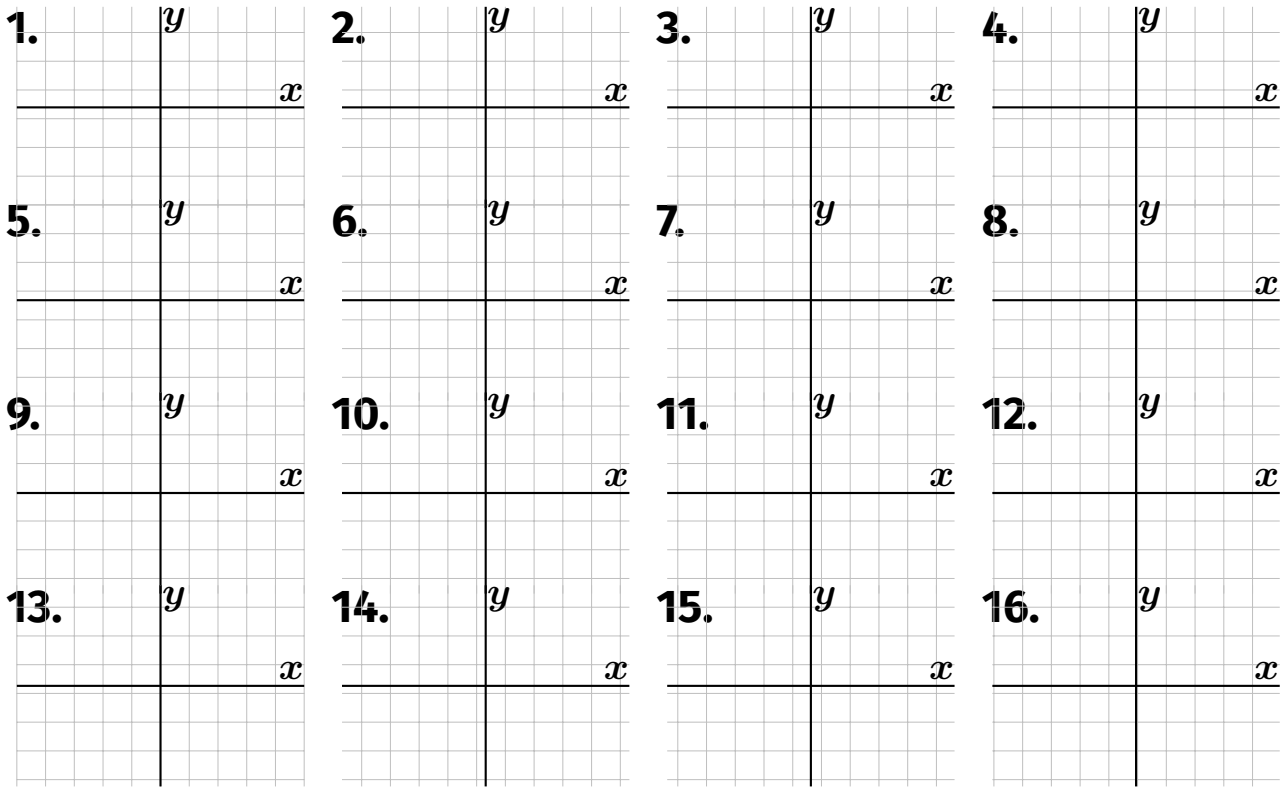
10. Draw $y = \frac{1}{2}x^2 + 2x - 1$. Label the turning point.

11. Draw $y = x^2 - 6x + 5$. Label the turning point.

12. Draw $y = -x^2 - 4x$. Label the turning point.

Drawing parabola from given equation — Excellence

Use the numbered blank grids. Draw each parabola neatly and add the requested features.



1. Draw $y = (x-3)^2 - 4$. Label the turning point and the axis of symmetry.

2. Draw $y = -2(x+1)^2 + 5$. Label the turning point and the axis of symmetry.

3. Draw $y = \frac{1}{2}(x-4)^2 - 3$. Label the turning point and the axis of symmetry.

4. Draw $y = x^2 - 8x + 12$. Label the turning point and the axis of symmetry.

5. Draw $y = -x^2 + 6x - 5$. Label the turning point and the axis of symmetry.

6. Draw $y = 2x^2 + 4x - 6$. Label the turning point and the axis of symmetry.

7. Draw $y = \frac{1}{2}x^2 - 3x + 2$. Label the turning point and the axis of symmetry.

8. Draw $y = -\frac{1}{2}x^2 - 2x + 3$. Label the turning point and the axis of symmetry.

9. Draw $y = (x + 2)^2 - 1$. Also mark where it crosses the x-axis.

10. Draw $y = -(x - 4)^2 + 2$. Also mark where it crosses the x-axis.

11. Draw $y = x^2 + 2x - 8$. Also mark where it crosses the x-axis.

12. Draw $y = -x^2 + 4x - 1$. Also mark where it crosses the x-axis.

13. Draw $y = 2(x-2)^2 + 1$. Choose a sensible table, then draw it.

14. Draw $y = -2(x+3)^2 + 4$. Choose a sensible table, then draw it.

15. Draw $y = \frac{1}{2}(x+1)^2 - 4$. Choose a sensible table, then draw it.

16. Draw $y = x^2 - 10x + 21$. Choose a sensible table, then draw it.