Year 9 Linear and Quadratic Graphs – Mixed Practice

HappyKids.fit

Year 9 · Maths · Linear and Quadratic Graphs · Mixed practice · 30 questions

Name _____ **Date** _____

A. Mixed practice (mixed order)

1. Find the gradient of the straight line through (6, −2) and (0, 7).

Answer _____

2. Where does the graph of $y = x^2 - 9$ cross the x-axis?

Answer _____

3. Find the coordinates of the points where the line $x + 4y = 12$ crosses the x-axis and the y-axis.

Answer _____

4. Write $x + 2y = -2$ in the form $y = mx + c$. State the gradient.

Answer _____

5. Find the gradient of the straight line through (5, −4) and (−1, −1).

Answer _____

6. A car travels 120 km in 2 hours 30 minutes. Find its average speed in km/h.

Answer _____

7. Find the coordinates of the points where the line $4x + 3y = 24$ crosses the x-axis and the y-axis.

Answer _____

8. Find the gradient of the straight line through $(3, -6)$ and $(-5, -5)$.

Answer _____

9. Does the graph of $y = x^2 + 7$ cross the x-axis? Explain.

Answer _____

10. Write $6x + 5y = 16$ in the form $y = mx + c$. State the gradient.

Answer _____

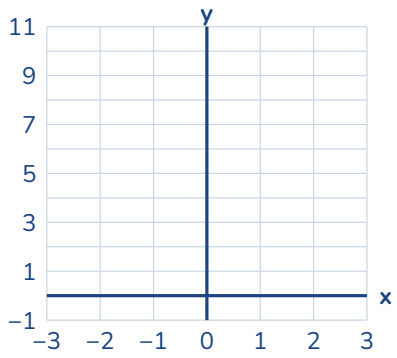
11. Find the coordinates of the points where the line $x + 3y = 6$ crosses the x-axis and the y-axis.

Answer _____

12. A taxi charges \$3 to start and \$6 for each kilometre. Write an equation for the cost y dollars of a journey of x km.

Answer _____

13. Complete a table of values for $y = x^2 + 1$ for $x = -3, -2, -1, 0, 1, 2, 3$. Then draw the curve on the grid.



Answer _____

14. A car uses fuel at a rate of 18 km per litre. How far can it travel on 45 litres?

Answer _____

15. Ivo says a horizontal line on a distance–time graph means the object is moving at a steady speed. Is Ivo right? Explain.

Answer _____

16. Find the gradient of the straight line through (2, 2) and (−2, 0).

Answer _____

17. Where does the graph of $y = x^2 - 16$ cross the x-axis?

Answer _____

18. Write $6x - 2y = 19$ in the form $y = mx + c$. State the gradient.

Answer _____

19. Look at the graphs of $y = (1/2)x + 4$, $y = -3x + 5$, $y = 2x + 4$ and $2x + y = 8$. Which are straight lines, and which of the straight lines slope downwards?

Answer _____

20. For the graph of $y = x^2 - 1$, find the two values of x where $y = 8$.

Answer _____

21. Bella says the lines $y = 3x + 3$ and $2y = 6x - 10$ are not parallel because the numbers are different. Explain the mistake and give the correct answer.

Answer _____

22. Write $4x + 4y = 7$ in the form $y = mx + c$. State the gradient.

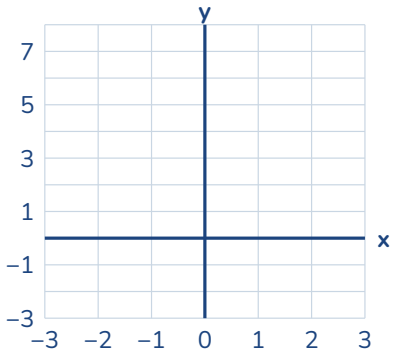
Answer _____

23. Find the gradient of the straight line through $(2, -6)$ and $(-4, 8)$.

Answer _____

24. Complete a table of values for $y = x^2 - 2$ for $x = -3, -2, -1, 0, 1, 2, 3$. Then draw the curve on the grid.

Answer _____



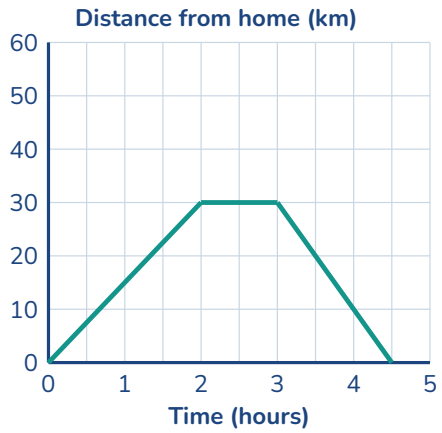
25. Amir says the graph of $y = x^2 - 4$ crosses the x-axis twice. Is Amir right? Explain.

Answer _____

26. A car travels 105 km in 1 hour 45 minutes. Find its average speed in km/h.

Answer _____

27. The graph shows a school bus trip. Find the speed for the first part of the journey, and how long the stop lasted in minutes.



Answer _____

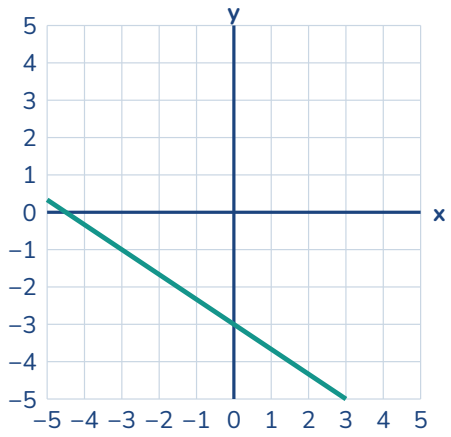
28. Find the coordinates of the points where the line x + 5y = 5 crosses the x-axis and the y-axis.

Answer _____

29. A candle is 24 cm tall and burns down 2 cm every hour. Write an equation for its height y cm after x hours.

Answer _____

30. Find the equation of the straight line drawn on the grid.



Answer _____