

FINDING THE GRADIENT (RATIO)

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

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| 1. | (2, 3) and (4, 7) | 2. | (1, 5) and (3, 9) |
| 3. | (0, 0) and (3, 6) | 4. | (-1, 2) and (1, 6) |
| 5. | (4, 1) and (6, 5) | 6. | (2, 8) and (5, 17) |
| 7. | (-3, 4) and (1, 12) | 8. | (5, 2) and (8, 8) |
| 9. | (-2, -3) and (0, 1) | 10. | (3, 7) and (7, 15) |
| 11. | (1, -2) and (4, 4) | 12. | (-4, 5) and (-1, 14) |
| 13. | (6, 3) and (10, 11) | 14. | (2, 9) and (5, 18) |
| 15. | (-3, -5) and (1, 3) | 16. | (4, 6) and (7, 15) |
| 17. | (0, 4) and (3, 13) | 18. | (-2, 8) and (2, 16) |
| 19. | (5, 1) and (8, 10) | 20. | (3, -4) and (6, 2) |
| 21. | (-1, -6) and (2, 0) | 22. | (7, 2) and (10, 11) |
| 23. | (4, 8) and (6, 14) | 24. | (-3, 7) and (0, 16) |
| 25. | (2, 5) and (5, 14) | 26. | (1, -3) and (4, 6) |
| 27. | (-4, -2) and (-1, 7) | 28. | (6, 4) and (9, 13) |
| 29. | (3, 2) and (7, 14) | 30. | (-2, -8) and (1, 1) |

MASTER QUESTIONS



- M1.** A straight road rises 15 metres over a horizontal distance of 300 metres. Calculate the gradient.
- M2.** A hiking trail climbs 120 metres vertically over 2 kilometres horizontally. What is its gradient?
- M3.** A wheelchair ramp must have a maximum gradient of 1:12. If it rises 0.5 metres, what is the minimum horizontal length required?
- M4.** A railway track rises 8 metres over 800 metres. Express the gradient as a simplified fraction.
- M5.** A roof pitch has a vertical rise of 3 metres for every 4 metres horizontally. What is the gradient?
- M6.** A ski slope drops 250 metres over a horizontal distance of 800 metres. Calculate the gradient.
- M7.** A drainage pipe falls 1.5 metres over 30 metres. What is the gradient?
- M8.** A hill climbs 75 metres over a horizontal distance of 500 metres. Express the gradient in simplest form.
- M9.** A staircase rises 2.7 metres over 15 steps with each step having a 25cm horizontal depth. Calculate the gradient.
- M10.** A cycling track has a gradient of 1:20. If it climbs 12 metres, what horizontal distance does it cover?