

Year 12 Transition Work 1

Name _____ Score _____

1. Evaluate $-80 \div -8$ (1)
2. Evaluate $-7\frac{8}{11} - 1$ as a top heavy fraction. (1)
3. Evaluate $\frac{5}{13} \times \frac{2}{7}$ (1)
4. Evaluate $8\frac{2}{11} - 3\frac{1}{5}$ as a top heavy fraction (2)
5. Evaluate $-1 \div 4\frac{3}{7}$ (2)
6. Expand and simplify $(5x - 1)(3x - 2)$ (2)
7. Solve $x - 4 > 3x - 5$ (2)
8. Expand and simplify $(5 - 3x)^2$ (2)
9. Expand and simplify $3x(2x - 3) - 2x(2x + 5)$ (2)
10. Factorise $3x^2 - 6x$ (1)
11. Factorise $x^2 - 81$ (1)
12. Factorise $x^2 - 9x + 14$ (2)
13. Factorise $6x^2 + 13x - 5$ (2)
14. Solve $x^2 - 6x = 0$ (2)
15. Solve $x^2 - 27 = 6x$ (2)
16. Solve $8x^2 - 10x - 3 = 0$ (2)
17. Solve the simultaneous equations $5x - 3y = -9$
 $2x - 5y = 4$ (3)
18. Simplify $2x^{-4} \times 4x^{-3}$ (2)
19. Write the following as a single power of x $\frac{1}{\sqrt[3]{x}}$ (1)
20. Write the following as single powers of x and y $(5x^2y^3)^3$ (2)
21. Write the following as a single power of x $\frac{x^2}{x^{-4}}$ (1)
22. Simplify $5x^3 - 3x^3$ (1)
23. Write 3^{-2} as a fraction (1)
24. Evaluate 21^0 (1)
25. Evaluate $10x^0$ (1)
26. Evaluate $64\frac{1}{3}$ (1)
27. Evaluate $49\frac{1}{2}$ (1)
28. Evaluate $27\frac{4}{3}$ (1)
29. Simplify $(64x^6)^{\frac{-2}{3}}$ (2)
30. Solve $19x^2 - 11x + 1 = 0$ using the quadratic formula. Leave your answers in simplified surd form. (3)
31. Simplify $32x^3(4x\frac{2}{3})^{-3}$ (2)
32. Make x the subject of $32y - 16x = 24$ (2)
33. Express $x^2 - 10x + 44$ in the form $(x + a)^2 - b$ (2)
34. Factorise $9x^2 - 4$ (1)
35. Sketch $y = x^2 + x - 20$ showing where the quadratic meets the x and y axes. (2)
36. Factorise fully $3x^2 - 75$ (1)
37. Solve $3(2y + 1)(3y - 1) = 0$ (1)
38. Simplify $(\frac{4}{7})^{-2}$ leaving your answer as a fraction in the form $\frac{a}{b}$ (1)