Name: _____    Class: _____

1. Relationship between $\dfrac{dy}{dx}$ and $\dfrac{dx}{dy}$.

2. Sketch the graph of $y = \ln x$



3. $\log_4 4 =$

4. 3 identities: $\cos 2x = \ldots$

5. $\dfrac{d}{dx}\sqrt[3]{5x-1} =$

6. 5 SUVAT equations

7. Criteria for an increasing function.

8. Sketch the graph of $y = 2^x$



9. $\ln e =$

10. Solve the inequality $(x-5)(2-x) < 0$
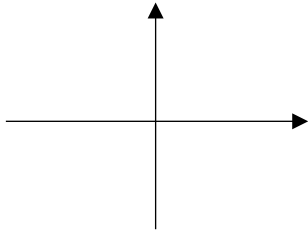
11. Sketch the graph of $y = x^2(x-1)(2x+3)$
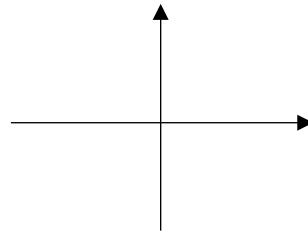


12. Chain Rule Formula

13. Symmetry properties for $\sin x$ and $\cos x$ (in radians)

14. $\displaystyle\int \dfrac{3}{12x-1}\,dx =$

15. $\sin x = \dfrac{3}{7},\ 90° < x < 180°$

    Find the exact value of $\tan x$.

16. Simplify $e^{5\ln x}$
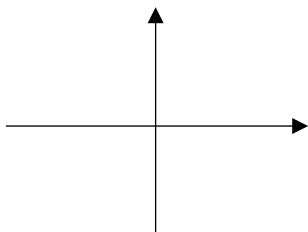
17. Sketch the graph of $y = \sqrt{x}$
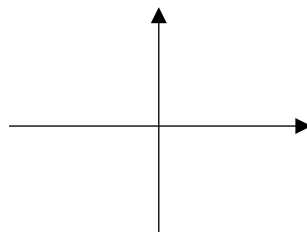


18. $\ln 0 =$

## Marking Column

For each question, colour the circle for a correct answer.

| Q | ✓ |
|-----|-----|
| 1. | ◯ |
| 2. | ◯ |
| 3. | ◯ |
| 4. | ◯ |
| 5. | ◯ |
| 6. | ◯ |
| 7. | ◯ |
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| 11. | ◯ |
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| 13. | ◯ |
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| 15. | ◯ |
| 16. | ◯ |
| 17. | ◯ |
| 18. | ◯ |
| Score | |
| Time | |