HKDSE MATH Core Sample Paper II

1. **HKDSE MATH Core Sample Paper II Q1**

   $(3a)^2 \cdot a^3 =$

   A. $3a^5$.

   B. $6a^6$.

   C. $9a^5$.

   D. $9a^6$.

2. **HKDSE MATH Core Sample Paper II Q2**

   If $5 - 3m = 2n$, then $m =$

   A. n.

   B. $\dfrac{2n - 5}{3}$.

   C. $\dfrac{-2n + 5}{3}$.

   D. $\dfrac{-2n + 15}{3}$.

3. **HKDSE MATH Core Sample Paper II Q3**

   $a^2 - b^2 + 2b - 1 =$

   A. $(a - b - 1)(a + b - 1)$

   B. $(a - b - 1)(a + b + 1)$

   C. $(a - b + 1)(a + b - 1)$

   D. $(a - b + 1)(a - b - 1)$

4. **HKDSE MATH Core Sample Paper II Q4**

   Let p and q be constants. If $x^2 + p(x + 5) + q \equiv (x - 2)(x + 5)$, then $q =$

   A. -25.

   B. -10.

   C. 3.

   D. 5.

5. **HKDSE MATH Core Sample Paper II Q5**

   Let $f(x) = x^3 + 2x^2 - 7x + 3$. When $f(x)$ is divided by $x + 2$, the remainder is

   A. 3.

   B. 5.

   C. 17.

D. 33.

6. HKDSE MATH Core Sample Paper II Q6

Let a be a constant. Solve tne equation $(x - a)(x - a - 1) = (x - a)$.

A. $x = a + 1$

B. $x = a + 2$

C. $x = a$ or $x = a + 1$

D. $x = a$ or $x = a + 2$

7. HKDSE MATH Core Sample Paper II Q7

Find the range of values of k such that the quadratic equation $x^2 - 6x = 2 - k$ has no real roots.

A. $k < -7$

B. $k > -7$

C. $k < 11$

D. $k > 11$

8. HKDSE MATH Core Sample Paper II Q8

In the figure, the quadratic graph of $y = f(x)$ intersects the straight line L at $A(1, k)$ and $B(7, k)$. Which of the following are true?

I. The solution of the inequality $f(x) > k$ is $x < 1$ or $x > 7$.

II. The roots of the equation $f(x) = k$ are 1 and 7.

III. The equation of the axis of symmetry of the quadratic graph of $y = f(x)$ is $x = 3$.
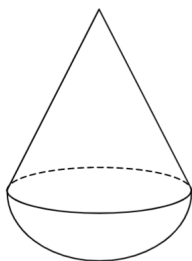
I and II only

B.

Figure 1

D.
I, II and III

9. **HKDSE MATH Core Sample Paper II Q9**

    A.

    B.

    C.

    D.

10. **HKDSE MATH Core Sample Paper II Q10**

    A.

    B.

    C.

    D.

11. **HKDSE MATH Core Sample Paper II Q11**

    A.

    B.

    C.

    D.

12. **HKDSE MATH Core Sample Paper II Q12**

    A.

    B.

    C.

    D.

13. **HKDSE MATH Core Sample Paper II Q13**

    A.

    B.

    C.

    D.

14. **HKDSE MATH Core Sample Paper II Q14**

A.

B.

C.

D.

15. **HKDSE MATH Core Sample Paper II Q15**

  A.

  B.

  C.

  D.

16. **HKDSE MATH Core Sample Paper II Q16**

  A.

  B.

  C.

  D.

17. **HKDSE MATH Core Sample Paper II Q17**

  A.

  B.

  C.

  D.

18. **HKDSE MATH Core Sample Paper II Q18**

  A.

  B.

  C.

  D.

19. **HKDSE MATH Core Sample Paper II Q19**

  A.

B.

C.

D.

20. **HKDSE MATH Core Sample Paper II Q20**

    A.

    B.

    C.

    D.

21. **HKDSE MATH Core Sample Paper II Q21**

    A.

    B.

    C.

    D.

22. **HKDSE MATH Core Sample Paper II Q22**

    A.

    B.

    C.

    D.

23. **HKDSE MATH Core Sample Paper II Q23**

    A.

    B.

    C.

    D.

24. **HKDSE MATH Core Sample Paper II Q24**

    A.

    B.

C.

D.

25. **HKDSE MATH Core Sample Paper II Q25**

    A.

    B.

    C.

    D.

26. **HKDSE MATH Core Sample Paper II Q26**

    A.

    B.

    C.

    D.

27. **HKDSE MATH Core Sample Paper II Q27**

    A.

    B.

    C.

    D.

28. **HKDSE MATH Core Sample Paper II Q28**

    A.

    B.

    C.

    D.

29. **HKDSE MATH Core Sample Paper II Q29**

    A.

    B.

    C.

D.

30. **HKDSE MATH Core Sample Paper II Q30**

    A.

    B.

    C.

    D.

31. **HKDSE MATH Core Sample Paper II Q31**

    A.

    B.

    C.

    D.

32. **HKDSE MATH Core Sample Paper II Q32**

    A.

    B.

    C.

    D.

33. **HKDSE MATH Core Sample Paper II Q33**

    A.

    B.

    C.

    D.

34. **HKDSE MATH Core Sample Paper II Q34**

    A.

    B.

    C.

    D.

35. **HKDSE MATH Core Sample Paper II Q35**

    A.

    B.

    C.

    D.

36. **HKDSE MATH Core Sample Paper II Q36**

    A.

    B.

    C.

    D.

37. **HKDSE MATH Core Sample Paper II Q37**

    A.

    B.

    C.

    D.

38. **HKDSE MATH Core Sample Paper II Q38**

    A.

    B.

    C.

    D.

39. **HKDSE MATH Core Sample Paper II Q39**

    A.

    B.

    C.

    D.

40. **HKDSE MATH Core Sample Paper II Q40**

A.

B.

C.

D.

41. **HKDSE MATH Core Sample Paper II Q41**

   A.

   B.

   C.

   D.

42. **HKDSE MATH Core Sample Paper II Q42**

   A.

   B.

   C.

   D.

43. **HKDSE MATH Core Sample Paper II Q43**

   A.

   B.

   C.

   D.

44. **HKDSE MATH Core Sample Paper II Q44**

   A.

   B.

   C.

   D.

45. **HKDSE MATH Core Sample Paper II Q45**

   A.

B.

C.

D.