STANDARD FACTORISATIONS

Factorise:

1 $m^2 - 1$ **2** $x^2 - 16$ **3** $64 - m^2$ **4** $9a^2 - 25$

5 $x^2 - 0.36$ **6** $a^2b^2 - c^2$ **7** $9x^2 - 4y^2$ **8** $(x+1)^2 - 9$

9 $x^2 - y^2z^2$ **10** $\frac{a^2}{25} - 1$ **11** $p^2 - \frac{1}{4}$ **12** $\frac{x^2}{4} - \frac{1}{9}$

17 $a^3b - ab^3$ **18** $12a^3 - 3ab^2$ **19** $3x^2y - 27y$ **20** $(x+y)^2 - 4$

21 $a^2 - (a-b)^2$ **22** $x^3 - x^2y - 9x + 9y$ **23** $x^3 + 3x^2 - 4x - 12$ **24** $p^2q - p^2 - 16q + 16$

25 $a^2x - x$ **26** $48a^2 - 75b^2$ **27** $(1+h)^2 - 1$ **28** $\frac{x^2}{25} - y^2$

29 When $(p+2)^2 - (p-2)^2$ is factorised, the answer is:

A $2p^2 + 8$ **B** $-8p$ **C** $2p^2 - 8$ **D** $8p$

30 Indicate whether each answer is a correct or incorrect factorisation of $\frac{a^2}{b^2} - \frac{b^2}{a^2}$.

(a) $\left(\frac{a}{b} - \frac{b}{a}\right)\left(\frac{a}{b} + \frac{b}{a}\right)$ (b) $\left(\frac{a}{b} - \frac{b}{a}\right)\left(\frac{b}{a} + \frac{a}{b}\right)$ (c) $\left(\frac{a}{b} - \frac{b}{a}\right)\left(\frac{a}{b} - \frac{b}{a}\right)$ (d) $\frac{(a-b)(a+b)(a^2+b^2)}{a^2b^2}$

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31 $y^3 - 125$ **32** $z^3 + 1$ **33** $8p^3 + 27$ **34** $216 - a^3$

35 $(x+5)^3 + (x-2)^3$ **36** $(2x+3)^3 - (x-4)^3$ **37** $b^6 - a^6$ **38** $64a^3 + 8b^3$

STANDARD FACTORISATIONS

39 $\frac{4}{3}\pi R^3 - \frac{4}{3}\pi r^3$ **40** $p^7x^4 - p^4x^7$ **41** $x^6 + y^6$ **42** $\frac{8}{a^3} - \frac{27}{b^3}$

43 $a^3m^3 + a^3n^3 - b^3n^3 - b^3m^3$ **44** $4x^5 - 9x^3 - 4x^2 + 9$ **45** $(x+h)^3 - x^3$

STANDARD FACTORISATIONS

46 $a^3 + (a-b)^3$

47 $(a+b)^3 - (a-b)^3$

48 $(2x+1)^3 - (2x-1)^3$

49 $8 - (2-x)^3$

50 $a^5b^4 - a^2b$

51 $2(x-y)^3 + 54$

53 When $(2x+1)^3 + (2x-1)^3$ is factorised, the answer is:

A $2(12x^2+1)$ **B** $4x(12x^2+1)$ **C** $2(4x^2+3)$ **D** $4x(4x^2+3)$