

MARKS

NAME:

CLASS:

BINOMIAL EXPANSIONS

FORMULAE

$$(a+b)^n = \binom{n}{0}a^n b^0 + \binom{n}{1}a^{n-1}b + \binom{n}{2}a^{n-2}b^2 + \binom{n}{3}a^{n-3}b^3 + \dots + \binom{n}{n}a^0 b^n$$

Write your answer in the box.

1 Expand $(1+2x)^3$

$$= \boxed{} 1^{\boxed{}} (2x)^{\boxed{}} + \boxed{} 1^{\boxed{}} (\boxed{})^{\boxed{}} + \boxed{} 1^{\boxed{}} (\boxed{})^{\boxed{}} + \boxed{} 1^{\boxed{}} (2x)^{\boxed{}}$$

$$= \boxed{} + \boxed{} x + \boxed{} x^2 + \boxed{} x^3$$

2 Expand $(2-x)^4$

$$= \boxed{}^4 - \boxed{} x^3 + \boxed{} x^2 - \boxed{} x + \boxed{}$$

3 Expand $\left(5 - \frac{1}{x}\right)^3$

$$= \boxed{} - \frac{\boxed{}}{x} + \frac{\boxed{}}{x^2} - \frac{\boxed{}}{x^3}$$

4 Expand $(x^2 - 2y)^4$

$$= \boxed{} \boxed{} - \boxed{} x^{\boxed{}} y^{\boxed{}} + \boxed{} x^{\boxed{}} y^{\boxed{}} - \boxed{} x^{\boxed{}} y^{\boxed{}} + \boxed{} y^{\boxed{}}$$

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