

CEM – Yr 12 – Primitive functions, Definite & Indefinite Integrals – MC – Paper 1

1) Find $\int(2x-1)^4 dx$

a) $\frac{1}{2}(2x-1)^5 + c$

b) $\frac{1}{10}(2x-1)^4 + c$

c) $\frac{1}{10}(2x-1)^5 + c$

d) $\frac{1}{5}(2x-1)^5 + c$

2) Find the primitive of $3x^3 - 4x^2 - 1$

a) $\frac{3x^4}{4} - \frac{4x^3}{3} - x$

b) $9x^4 - 4x^3 - x$

c) $9x^2 - 8x$

d) $x^4 - \frac{4x^3}{3}$

3) Find the primitive $x^4 - 5$

a) $4x - 5$

b) $\frac{x^5}{5} - 5x$

c) $4x^3 - 5$

d) $4x^3$

4) Find $\int(9x^2 - 1) dx$

a) $3x^3 - x + c$

b) $18x + c$

c) $9x^3 - x + c$

d) $412x^4 - 5x + c$

5) Find the primitive function $4 + \sqrt{x}$

a) $4x^2 + \frac{2x}{9} + c$

b) $4x + \frac{2x\sqrt{x}}{3} + c$

c) $8x^2 + \frac{2x^2}{3} + c$

d) $8x^2 + \frac{4x}{9} + c$

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6) Find the value of $\int_{-1}^3 (x^2 + 5) dx$

a) 6

b) $\frac{88}{3}$

b) 18

d) $\frac{29}{3}$

7) Find the value of $\int_2^3 (9x - 5)^3 dx$

a) $5713\frac{3}{4}$

b) $7300\frac{17}{36}$

c) $\frac{35}{36}$

d) $4364\frac{9}{16}$

8) Find the value of $\int_4^9 x^{\frac{3}{2}} dx$

a) 32

b) 110

c) 84.4

d) 56.75

9) Find $\int x^4 + 3x^2 dx$

a) $x^5 + 3x + c$

b) $4x^4 + 3x^2 + x + c$

c) $4x^3 + 6x + c$

d) $\frac{x^5}{5} + x^3 + c$

10) Find $\int x - 3x^2 dx$

a) $\frac{x^2}{2} - x^3 + c$

b) $x^2 - \frac{x^3}{3} + c$

c) $-6x + c$

d) $x^4 - 3x + c$

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Answers

1. c)
2. a)
3. b)
4. a)
5. b)
6. b)
7. a)
8. c)
9. d)
10. a)