

Higher Order Derivatives

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Find the indicated derivative of the function.

1) $\frac{d^2y}{dx^2}$ for $y = 7x \sin x$ 1) _____

- A) $7 \cos x - 14x \sin x$
C) $-14 \cos x + 7x \sin x$

- B) $14 \cos x - 7x \sin x$
D) $-7x \sin x$

2) $\frac{d^2y}{dx^2}$ for $y = -4 \cos x$ 2) _____

A) $4 \sin x$

B) $-4 \sin x$

C) $4 \cos x$

D) $-4 \cos x$

3) $\frac{d^2y}{dx^2}$ for $y = 4 \sin x$ 3) _____

A) $-4 \sin x$

B) $16 \sin x$

C) $4 \sin x$

D) $4 \cos x$

4) $\frac{d^4y}{dx^4}$ for $y = -4 \cos x$ 4) _____

A) $-4 \cos x$

B) $-4 \sin x$

C) $4 \sin x$

D) $4 \cos x$

5) $\frac{d^3y}{dx^3}$ for $y = 3x^3 + 6x^2 - 4x$ 5) _____

A) $9x + 18$

B) $18x + 9$

C) 18

D) 9

6) $\frac{d^3y}{dx^3}$ for $y = 3x \sin x$ 6) _____

A) $6 \cos x - 3x \sin x$

C) $3x \cos x + 9 \sin x$

B) $-3x \cos x + 9 \sin x$

D) $-3x \cos x - 9 \sin x$

7) $\frac{d^3y}{dx^3}$ for $y = 3x^3 + 5x^2 - 5x$ 7) _____

A) 9

B) 18

C) $18x + 9$

D) $9x + 18$

8) $\frac{d^4y}{dx^4}$ for $y = 9 \sin x$ 8) _____

A) $-9 \cos x$

B) $-9 \sin x$

C) $9 \sin x$

D) $9 \cos x$

Answer Key

Testname: HIGHER ORDER DERIVATIVES

- 1) B
- 2) C
- 3) A
- 4) A
- 5) C
- 6) D
- 7) B
- 8) C