

06. Turunan dari $f(x) = 4x^{-1/2} + 6x^{2/3} - \frac{1}{4}x^2$ adalah $f'(x) = \dots$

A. $4x^{-3/2} + 6x^{-1/3} - \frac{1}{4}x$

B. $f - 2x^{-3/2} + 4x^{-1/3} - \frac{1}{2}x$

C. $-2x^{-1/2} + 4x^{-2/3} - \frac{1}{2}x^2$

D. $4x^{-1/2} - 4x^{-1/3} - \frac{1}{2}$

E. $4x^{1/2} + 6x^{5/3} - \frac{1}{4}x^3$

07. Turunan dari $f(x) = \frac{1}{2}x^{1/2} - \frac{3}{4}x^{2/3} + x^{-3/4}$ adalah $f'(x) = \dots$

A. $2x^{-1/2} - \frac{1}{2}x^{1/3} - \frac{3}{4}x^{-5/4}$

B. $\frac{1}{4}x^{-1/2} - \frac{1}{2}x^{-1/3} - \frac{3}{4}x^{1/4}$

C. $\frac{1}{4}x^{-1/2} - \frac{1}{2}x^{-1/3} - \frac{3}{4}x^{-7/4}$

D. $2x^{-1/2} - \frac{1}{2}x^{-5/3} - \frac{3}{4}x^{-1/4}$

E. $\frac{1}{4}x^{3/2} - \frac{1}{2}x^{5/3} - \frac{3}{4}x^{1/4}$

08. Turunan dari $f(x) = \frac{1}{x^5} + \frac{6}{x^{3/2}} - \frac{2}{3x}$ adalah $f'(x) =$

A. $\frac{-5}{x^6} - \frac{9}{x^{5/2}} + \frac{2}{3x^2}$

B. $\frac{1}{x^4} + \frac{6}{x^{1/2}} - \frac{2}{3}$

C. $\frac{1}{5x^4} + \frac{4}{x^{1/2}} - \frac{2}{3}$

D. $\frac{5}{x^4} + \frac{9}{x^{1/2}} - \frac{2}{3}$

E. $\frac{-5}{x^4} - \frac{9}{x^{1/2}} + \frac{2}{3}$

09. Turunan fungsi $f(x) = \frac{2}{3x^{2/3}} - \frac{3}{x^{5/2}} + \frac{1}{4x^{3/2}}$ adalah $f'(x) = \dots$

A. $-\frac{4}{9x^{5/3}} + \frac{15}{2x^{7/2}} - \frac{3}{8x^{5/2}}$

B. $\frac{2}{3x^{-1/3}} - \frac{2}{x^{3/2}} + \frac{1}{6x^{1/2}}$

C. $\frac{1}{x^{2/3}} - \frac{2}{x^{5/2}} + \frac{1}{6x^{3/2}}$

D. $-\frac{4}{9x^{2/3}} + \frac{15}{2x^{7/2}} - \frac{3}{8x^{3/2}}$

E. $\frac{1}{x^{5/2}} - \frac{2}{x^{7/2}} + \frac{1}{6x^{5/2}}$

10. Jika $f(x) = \sqrt{x} + 2\sqrt{x^3} - \frac{1}{2}\sqrt{x^7}$ maka turunannya adalah $f'(x) = \dots$

A. $\frac{1}{2}\sqrt{x} + 3x\sqrt{x} + \frac{7}{2}\sqrt{x^5}$

B. $\frac{2}{\sqrt{x}} + 3\sqrt{x} + \frac{7}{4\sqrt{x^5}}$

C. $\frac{1}{2\sqrt{x}} + 3\sqrt{x} - \frac{7}{4}\sqrt{x^5}$

D. $2\sqrt{x} + \frac{3}{\sqrt{x}} + \frac{7}{4\sqrt{x^7}}$

E. $\frac{1}{2\sqrt{x}} + \frac{3}{\sqrt{x}} + 7\sqrt{x^5}$

11. Jika $f(x) = \frac{2}{\sqrt{x}} - \frac{3}{4\sqrt{x^3}} + \frac{1}{\sqrt{x^5}}$, maka $f'(x)$ adalah ...

- A. $-\frac{1}{\sqrt{x^3}} + \frac{9}{8\sqrt{x}} - \frac{5}{2}\sqrt{x^5}$ B. $\frac{1}{\sqrt{x}} + \frac{9}{8}\sqrt{x^3} - \frac{1}{2}\sqrt{x^5}$
 C. $-\frac{1}{\sqrt{x^3}} + \frac{9}{8\sqrt{x^5}} - \frac{5}{2\sqrt{x^7}}$ D. $-\sqrt{x^3} + \frac{2}{3\sqrt{x^5}} - \frac{5}{\sqrt{x^7}}$
 E. $-\sqrt{x^3} + \frac{9}{8\sqrt{x^5}} - \frac{5}{2\sqrt{x}}$

12. Jika $f(x) = 3x^2\sqrt{x} + \frac{2x^5}{\sqrt{x^3}} - \frac{6}{x\sqrt{x}}$ maka $f'(x) = \dots$

- A. $\frac{15}{2\sqrt{x^3}} + 7\sqrt{x^7} + \frac{2}{\sqrt{x^3}}$ B. $\frac{15}{2}\sqrt{x^3} + 7\sqrt{x^5} + \frac{9}{\sqrt{x^5}}$
 C. $\frac{7}{2\sqrt{x^3}} + 5\sqrt{x^5} + \frac{1}{2\sqrt{x^3}}$ D. $\frac{15}{\sqrt{x^3}} + \frac{\sqrt{x^5}}{7} + 9\sqrt{x^3}$
 E. $\frac{15}{2\sqrt{x^5}} + \frac{5}{7\sqrt{x^3}} + \frac{1}{2}$

13. Jika $f(x) = 3(x-4)^2 - (2x-1)(3x+2)$ maka $f'(x) = \dots$

- A. $3x + 12$ B. $5x - 6$ C. $-6x - 25$
 D. $7x + 21$ E. $3x - 15$

14. Turunan dari $y = \frac{6x^2 - 3x + 4}{\sqrt{x}}$ adalah $y' = \dots$

- A. $9\sqrt{x} - \frac{3}{2\sqrt{x}} - \frac{2}{\sqrt{x^3}}$ B. $6\sqrt{x} - \frac{3}{\sqrt{x}} - \frac{2}{\sqrt{x^3}}$ C. $9\sqrt{x} - 6\sqrt{x^5} - 2\sqrt{x^3}$
 D. $9\sqrt{x} - \frac{9}{\sqrt{x}} + 2\sqrt{x^3}$ E. $\frac{9}{\sqrt{x}} - \frac{3}{2\sqrt{x}} - 2\sqrt{x^3}$

15. Turunan dari $f(x) = \frac{(2+x)(3+x)}{\sqrt{x}}$ adalah ...

- A. $f'(x) = -\frac{3}{\sqrt{x^3}} + \frac{5}{2\sqrt{x}} + \frac{3\sqrt{x}}{2}$ B. $f'(x) = -\frac{3}{\sqrt{x^3}} - 2\sqrt{x} - \frac{3}{2\sqrt{x}}$
 C. $f'(x) = -\frac{3}{\sqrt{x^3}} - \frac{1}{2\sqrt{x}} - \frac{3\sqrt{x}}{2}$ D. $f'(x) = -3\sqrt{x^3} - \frac{2}{\sqrt{x}} - \frac{3\sqrt{x}}{2}$
 E. $f'(x) = -3\sqrt{x^3} - \frac{1}{2\sqrt{x}} - \frac{2\sqrt{x}}{3}$

16. Jika $f(x) = 2x^3 - 3x^2 + 4x$, maka $f'(2) = \dots$
- A. 28 B. 21 C. 20
D. 18 E. 16
17. Jika $f(x) = \frac{(x-2)^2}{x\sqrt{x}}$ maka $f'(4) = \dots$
- A. $\frac{3}{16}$ B. $\frac{3}{8}$ C. $\frac{5}{16}$
D. $\frac{7}{16}$ E. $\frac{5}{8}$
18. Jika $f(x) = (x^2 + \frac{1}{x})^2$ maka $f'(2) = \dots$
- A. $31\frac{1}{2}$ B. $31\frac{1}{4}$ C. $32\frac{3}{4}$
D. $33\frac{3}{4}$ E. $36\frac{1}{4}$
19. Diketahui fungsi $f(x) = 2x^3 - 3x^2 + 6x - 2$. Jika $f'(x) = 18$ maka nilai x yang memenuhi adalah ...
- A. -2 B. 1 C. 2
D. 3 E. 4