

Check your answers:

1. $f'(x) = 4x^3 + 6x^{-3}$

$$f''(x) = 12x^2 - 18x^{-4}$$

2. $f'(x) = 21x^6 - 5x^4$

$$f''(x) = 126x^5 - 20x^3$$

3. $f'(x) = 0, f''(x) = 0$

4. $f'(x) = 4(2x+1)^{-3}$

$$f''(x) = 24(2x+1)^{-4}$$

5. $f'(x) = \pi^2$

$$f''(x) = 0$$

6. $f'(x) = 7 \cdot 2^{-7/2} \cdot x^6$

$$f''(x) = 42 \cdot 2^{-7/2} \cdot x^5$$

7. $f'(x) = -x^{-4} + 7$

$$f''(x) = 4x^{-5}$$

8. $f'(x) = -3/2 (e-3x)^{-3/4}$

$$f''(x) = \frac{-27}{8} (e-3x)^{-7/4}$$

9.

$$f'(x) = 11 \cdot \pi (\pi x + 17)^{10}$$

$$f''(x) = 110 \pi^2 (\pi x + 17)^9$$

10. $f'(x) = 1/2 + -2(x-2)^{-2}$

$$f''(x) = 4(x-2)^{-3}$$