

**Ex 1 :** Montrer que  $F$  est une primitive de  $f$  sur chaque intervalle  $I$

**2**  $f(x) = 7 \cdot F(x) = 7x - 4 \cdot I = \mathbb{R}.$

**3**  $f(x) = -3x + 1 \cdot F(x) = -\frac{3}{2}x^2 + x - 1 \cdot I = \mathbb{R}.$

**4**  $f(x) = 6x^2 \cdot F(x) = 2x^3 \cdot I = \mathbb{R}.$

**5**  $f(x) = 4x^3 \cdot F(x) = x^4 \cdot I = \mathbb{R}.$

**6**  $f(x) = 3x^3 \cdot F(x) = \frac{3}{4}x^4 \cdot I = \mathbb{R}.$

**7**  $f(x) = 2x + 3 \cdot F(x) = x^2 + 3x \cdot I = \mathbb{R}.$

**8**  $f(x) = 6x^2 - 4x \cdot F(x) = 2x^3 - 2x^2 - 4 \cdot I = \mathbb{R}.$

**9**  $f(x) = \frac{2}{x^2} \cdot F(x) = -\frac{2}{x} + 3 \cdot I = ]0; +\infty[.$

**10**  $f(x) = \cos(x) \cdot F(x) = \sin(x) + 3 \cdot I = \mathbb{R}.$

**Ex 2 :** Déterminer une primitive  $F$  de la fonction  $f$

**11**  $f(x) = -5 \cdot I = \mathbb{R}.$

**12**  $f(x) = 4x - 5 \cdot I = \mathbb{R}.$

**13**  $f(x) = 3x^2 \cdot I = \mathbb{R}.$

**14**  $f(x) = 7x^3 \cdot I = \mathbb{R}.$

**15**  $f(x) = \cos(x) \cdot I = \mathbb{R}.$

**16**  $f(x) = \sin(x) \cdot I = \mathbb{R}.$

**17**  $f(x) = 3\sin(x) + 1 \cdot I = \mathbb{R}.$

**18**  $f(x) = \frac{1}{x^2} \cdot I = ]0; +\infty[.$

**19**  $f(x) = 3 - \frac{1}{x^2} \cdot I = ]-\infty; 0[.$

**Ex 3 :** Déterminer la primitive  $F$  de  $f$  vérifiant  $F(x_0) = y_0$

**28**  $f(x) = 2 \cdot I = \mathbb{R} \cdot x_0 = 1 \text{ et } y_0 = 4.$

**29**  $f(x) = 3x + 7 \cdot I = \mathbb{R} \cdot x_0 = 1 \text{ et } y_0 = \frac{1}{2}.$

**30**  $f(x) = 5x^2 - 6x \cdot I = \mathbb{R} \cdot x_0 = 0 \text{ et } y_0 = 1.$

**31**  $f(x) = x^5 - 3x^3 \cdot I = \mathbb{R} \cdot x_0 = 1 \text{ et } y_0 = 2.$

**32**  $f(x) = 3 - \frac{1}{x^2} \cdot I = ]0; +\infty[ \cdot x_0 = 1 \text{ et } y_0 = 1.$

**33**  $f(x) = 3\sin(x) \cdot I = \mathbb{R} \cdot x_0 = \pi \text{ et } y_0 = 1.$

**34**  $f(x) = \cos(2x) \cdot I = \mathbb{R} \cdot x_0 = \frac{\pi}{2} \text{ et } y_0 = 1.$

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