

$$f(x) = 2x^2 - 3x + 4$$

$$\begin{aligned} f(3) &= 2(3)^2 - 3(3) + 4 \\ &= 18 - 9 + 4 \\ &= 13 \end{aligned}$$

$$\begin{aligned} f(-4) &= 2(-4)^2 - 3(-4) + 4 \\ &= 32 + 12 + 4 \\ &= 48 \end{aligned}$$

$$f(x) = 2x^2 - 3x + 4$$

$$f(a) = 2a^2 - 3a + 4$$

$$\begin{aligned} f(3a) &= 2(3a)^2 - 3(3a) + 4 \\ &= 2(9a^2) - 9a + 4 \\ &= 18a^2 - 9a + 4 \end{aligned}$$

$$\begin{aligned} 3f(a) &= 3(2a^2 - 3a + 4) \\ &= 6a^2 - 9a + 12 \end{aligned}$$

$$f(x) = 2x^2 - 3x + 4$$

$$f(x+2) = 2 \underbrace{(x+2)^2}_{(x+2)(x+2)} - 3(x+2) + 4$$

$$= 2(x^2 + 4x + 4) - 3(x+2) + 4$$

$$= 2x^2 + 8x + 8 - 3x - 6 + 4$$

$$f(x+2) = 2x^2 + 5x + 6$$

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