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حل:

$$a + aq + aq^2 = +a \rightarrow 1 + q + q^2 = +1$$

$$\rightarrow q^2 + q = 0 \rightarrow q = 0 \text{ یا } \boxed{q = -1}$$

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حل:

$$S_{\Delta ABC} = \frac{1}{2} \times 4 \times 4 \times \sin 150^\circ = 4$$

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حل:

$$x^2 + (2m - 1)x + 9 = 0$$

$$(2m - 1)^2 - 36 = 0 \begin{cases} \rightarrow 2m - 1 = 6 \rightarrow m = \frac{7}{2} \\ \rightarrow 2m - 1 = -6 \rightarrow m = -\frac{5}{2} \end{cases}$$

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حل:

$$\frac{2}{\sqrt{x^2} - \sqrt{x+1}} \times \frac{\sqrt{x+1}}{\sqrt{x+1}} = \frac{-2\sqrt{x-2}}{x+1}$$

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حل:

$$|x^2 - 1| \leq 8 \rightarrow -8 \leq x^2 - 1 \leq 8 \rightarrow 0 \leq x^2 \leq 9$$

$$\rightarrow 0 \leq x \leq 3, [0, 3]$$

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حل:

$$f(x) = ax^2 + bx + c \rightarrow c = -2$$

$$A = \begin{vmatrix} 1 \\ 0 \end{vmatrix} \rightarrow a + b - 2 = 0 \rightarrow \begin{cases} a + b = 2 \\ a - 2b = 2 \end{cases} \Rightarrow \begin{cases} a = \frac{2}{3} \\ b = \frac{4}{3} \end{cases}$$

$$B = \begin{vmatrix} -2 \\ 0 \end{vmatrix} \rightarrow 9a - 2b - 2 = 0 \rightarrow \begin{cases} a + b = 2 \\ 9a - 2b = 2 \end{cases} \Rightarrow \begin{cases} a = \frac{2}{3} \\ b = \frac{4}{3} \end{cases}$$

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$$f(x) = ax + b$$

$$f(2) = 7 \rightarrow 2a + b = 7$$

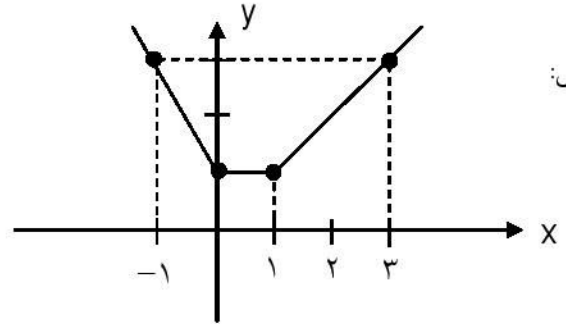
$$f(-1) = 1 \rightarrow -a + b = 1$$

$$\Rightarrow \begin{cases} a = 2 \\ b = 3 \end{cases} \Rightarrow f(x) = 2x + 3$$

حل:

$$g(x) = |x - 1| + |x|$$

x	-1	0	1	2
y	3	1	1	3



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حل:

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$$4 \times 5 = 20$$

حل:

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$$\frac{8}{\text{مدیر}} \times \frac{4}{\text{حسابدار}} \times \frac{7}{\text{معاون}} = 224$$

حل:

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حل:

$$n(s) = 12^2 \rightarrow P(A) = \frac{12}{12^2} = \frac{1}{12}$$

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حل:

$$P(A') = 1 - P(A) = 1 - 0.73 = 0.27$$

$$\Rightarrow P(A' \cap B') = P(A') \times P(B') = 0.27 \times 0.4 = 0.108$$

$$P(B') = 1 - P(B) = 1 - 0.6 = 0.4$$

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حل:

$$P(A - B) = \frac{1}{4}$$

$$\Rightarrow P(A \cap B) = 1 - \left(\frac{1}{4} + \frac{1}{2}\right) = \frac{1}{4}$$

$$P(B - A) = \frac{1}{2}$$

$$P(A) = P(A - B) + P(A \cap B) = \frac{1}{4} + \frac{1}{4} = \frac{1}{2}$$

$$P(B) = P(B - A) + P(A \cap B) = \frac{1}{2} + \frac{1}{4} = \frac{3}{4}$$

$$\frac{P(A \cap B)}{P(A)} = \frac{\frac{1}{4}}{\frac{1}{2}} = \frac{1}{2}$$

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حل:

$$P = \frac{(x^2 - 4)^y \cdot (1 - x^3)^{11}}{|2x - 1|}$$

$$x^2 - 4 = 0 \rightarrow x = \pm 2$$

$$1 - x^3 = 0 \rightarrow x = 1$$

$$2x - 1 = 0 \rightarrow x = \frac{1}{2}$$

x	$+\infty$	-2	$\frac{1}{2}$	1	2	$-\infty$	
$(x^2 - 4)^y$	+	○	+	+	+	○	+
$(1 - x^3)^{11}$	+	+	+	○	-	-	-
$ 2x - 1 $	+	+	○	+	+	+	+
P	+	○	+	○	-	○	-