

$$① \quad 32x^4 - 48x^3 - 10x^2 + 21x + 5 = 0$$

Делители свободного члена 5:

$$\pm 1; \pm 5$$

Делители 32:

$$\pm 1; \pm 2; \pm 4; \pm 8; \pm 16; \pm 32$$

$$p=5; \quad q=32;$$

$$\frac{p}{q}; \pm 1; \pm \frac{1}{2}; \pm \frac{1}{4}; \pm \frac{1}{8}; \pm \frac{1}{16}; \pm \frac{1}{32}; \pm 5; \pm \frac{5}{4}$$

По схеме Горнера:

	32	-48	-10	21	5
1	32	$1 \cdot 32 - 48 = -16$	$1 \cdot (-16) - 10 = -26$	$1 \cdot (-26) + 21 = -5$	$1 \cdot (-5) + 5 = 0$

	32	-16	-26	-5	0
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$$32x^3 - 16x^2 - 26x - 5 = 0$$

	32	-16	-26	-5
1	32	16	-10	-15
$-\frac{1}{2}$	32	32	-10	0

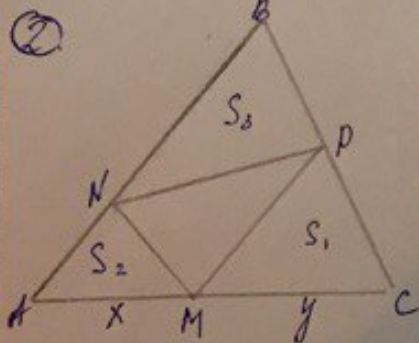
$$32x^2 - 32x - 10 = 0 \quad | :2$$

$$16x^2 - 16x - 5 = 0$$

$$D = 256 + 4 \cdot 5 \cdot 16 = 256 + 320 = 576 = 24^2$$

$$x_1 = \frac{16 - 24}{32} = -\frac{8}{32} = -\frac{1}{4}; \quad x_2 = \frac{16 + 24}{32} = \frac{40}{32} = \frac{5}{4}$$

$$\text{Ответ: } x = 1; \quad x = -\frac{1}{2}; \quad x = -\frac{1}{4}; \quad x = \frac{5}{4}$$



Дано: $M \in AC; N \in AB; P \in BC;$
 $AB \parallel MP; BC \parallel MN$

$$S_{\triangle ANM} = S_2; \quad S_{\triangle MNP} = S_1$$

$$\text{Найти: } S_{\triangle BNP}$$

Решение:

$$\text{Пусть } AM = x; \quad MC = y$$

$$\text{Из } \triangle AMN \sim \triangle MPC \Rightarrow \frac{S_1}{S_2} = \left(\frac{x}{x+y}\right)^2; \quad \sqrt{\frac{S_1}{S_2}} = \frac{x}{x+y}$$

$$\text{Из } \triangle MPC \sim \triangle ABC \Rightarrow \frac{S_2}{S} = \left(\frac{y}{x+y}\right)^2; \quad \sqrt{\frac{S_2}{S}} = \frac{y}{x+y}$$

$$\frac{\sqrt{S_1} + \sqrt{S_2}}{\sqrt{S}} = 1; \quad S = (\sqrt{S_1} + \sqrt{S_2})^2;$$

$$S_3 = \frac{1}{2} S_{\triangle BNP} = \frac{1}{2} (S - S_1 - S_2) = \sqrt{S_1 S_2}$$

$$\text{Ответ: } \sqrt{S_1 S_2}$$