

$$d. \begin{cases} 2x + a^2 - 4 = 0 \\ 2x^2 + (a^2 - 4)x + a = 0 \end{cases}$$

$$\begin{cases} a^2 - 4 = -2x \\ 2x^2 + (-2x)x + a = 0 \end{cases}$$

$$2x^2 - 2x^2 + a = 0$$

$$a = 0$$

при $a = 0, 0^2 - 4 = -2x$

$$-4 = -2x$$

$$2x = 4$$

$$x = 2$$

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Ответ: при $a = 0$, уравнение будет иметь общий корень $x = 2$.

$$5. \begin{cases} a + b + c = 100 \\ a^3 + b^3 + c^3 = 800 \end{cases}$$

$$a = 100 - b - c$$

$$(100 - b - c)^3 + b^3 + c^3 = 800$$

$$1000000 - b^3 - c^3 + b^3 + c^3 = 800$$

$$1000000 \neq 800$$

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Ответ: нет

$$3. \begin{cases} \triangle ACB \sim \triangle ACD \\ \triangle BCD \sim \triangle CDA \\ \triangle ACD \sim \triangle BCD \end{cases}$$

$$S_{ABC} = 3S_{ACD}$$

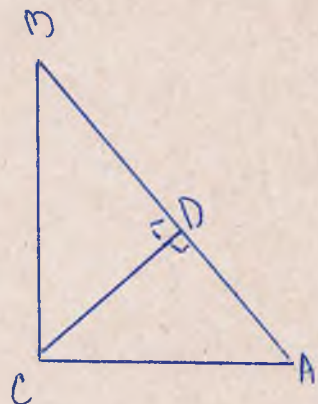
$$\frac{3S_{ACD}}{S_{ACD}} = k^2 \Rightarrow k^2 = 3$$

$$\frac{BC}{AC} = \frac{CD}{CB} = \frac{CD}{AD} = \sqrt{3}$$

$$\operatorname{tg} \angle A = \frac{BC}{AC} = \sqrt{3} \Rightarrow \angle A = 60^\circ \Rightarrow \angle B = (180 - 90 - 60) = 30^\circ$$

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Ответ: $\angle A = 60^\circ; \angle B = 30^\circ; \angle C = 90^\circ$



$$4. \quad x = 100\%$$

$$x+1 = 100\%$$

$$120x = 100(x+1)$$

$$120x = 100x + 100$$

$$20x = 100$$

$$x = 5$$

$$x+1 = 5+1 = 6$$

Jawab: 6 kemang.

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$$\frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$$