

4.

$$\sin x \cdot \cos x = \frac{1}{3}$$

olduğuna göre, $\sin^3 x + \cos^3 x$ toplamı kaçtır?

A) $-\frac{5}{2}$

B) $-\frac{2}{3}$

C) $\frac{2}{3}$

D) $\frac{\sqrt{5}}{3}$

E) $\frac{2\sqrt{15}}{9}$

$$(s+c) \left(s^2 - sc + c^2 \right)$$

$$(s+c) \cdot \left(1 - \frac{1}{3} \right)$$

$$(s+c)^2 = s^2 + c^2 + 2sc$$

$$1 + \frac{2}{3}$$

$$(s+c)^2 = \frac{5}{3}$$

$$s+c = \frac{\sqrt{5}}{\sqrt{3}} \quad \checkmark$$

9.

3 bölge

$$\pi < \theta < \frac{3\pi}{2}$$

$$\sqrt{1 - \cos^2 \theta} = \sqrt{\sin^2 \theta} =$$

olduğuna göre, $\sqrt{1 + \cos \theta} \cdot \sqrt{1 - \cos \theta}$ çarpımı aşağıdaki-
lerden hangisidir?

$$= |\sin^2 \theta|$$
$$= -\sin \theta$$

- ✓ A) $-\sin \theta$ B) $-\cos \theta$ C) 1 D) $\sin \theta$ E) $\cos \theta$

10.

$$7x + x \rightarrow +x$$

$$8x = \frac{\pi}{2} \text{ olmak üzere,}$$

$$\frac{\sin 7x + \sin 9x}{\cos x - \cos 15x}$$

kesrinin değeri kaçtır?

A) -1

B) $\sin x$

C) 1

D) $\cos x$

E) 2

$$9x = \frac{\pi}{2} + x$$

$$16x = \pi$$

$$15x = \pi - x$$

$$\cos(\pi - x) = -\cos x$$

$$\sin 9x = \sin\left(\frac{\pi}{2} + x\right) = \cos x$$

$$7x = \frac{\pi}{2} - x$$

$$\sin 7x = \sin\left(\frac{\pi}{2} - x\right) = \cos x$$

$$\frac{2 \cos x}{2 \cos x} = 1$$

8.

$$10x = \frac{\pi}{2}$$

$20x = \pi$ olduğuna göre,

$$5x = \frac{\pi}{4}$$

$\frac{\cos x \cdot \cot 8x}{\sin 5x \cdot \sin 9x \cdot \cot(-12x)}$ ifadesinin değeri kaçtır?

✓ A) $\sqrt{2}$

B) 1

C) -1

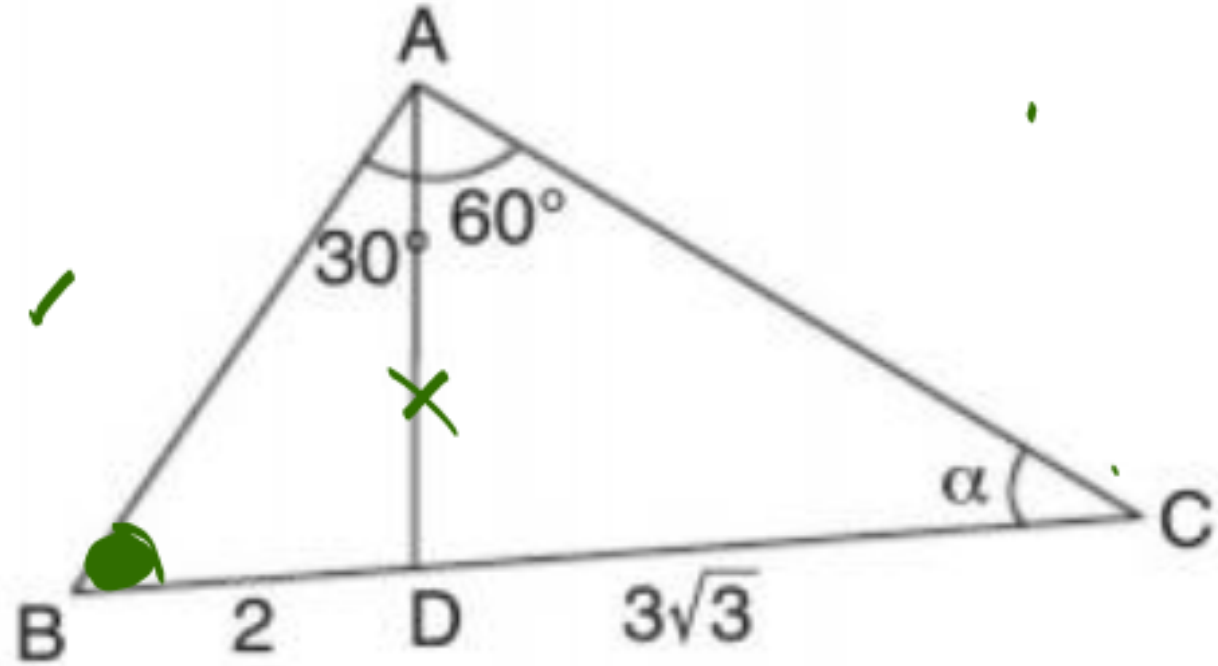
D) $-\sqrt{2}$

E) $\sqrt{3}$

$$\sin \frac{\pi}{6} = \frac{1}{2}$$

$$\frac{1}{\frac{1}{\sqrt{2}}} = \sqrt{2} //$$

1.



ABC üçgen

$$m(\widehat{BAD}) = 30^\circ$$

$$m(\widehat{DAC}) = 60^\circ$$

$$|BD| = 2 \text{ birim}$$

$$|DC| = 3\sqrt{3} \text{ birim}$$

$$\frac{x}{\sin \widehat{C}} = \frac{3\sqrt{3}}{\sin 60}$$

$$\sin \widehat{C} = \frac{x}{6}$$

$$\frac{x}{\sin \widehat{B}} = \frac{2}{\sin 30}$$

$$\sin \widehat{B} = \frac{x}{4}$$

Yukarıda verilenlere göre, $\frac{\sin \widehat{B}}{\sin \widehat{C}}$ oranı kaçtır?

A) $\frac{1}{2}$

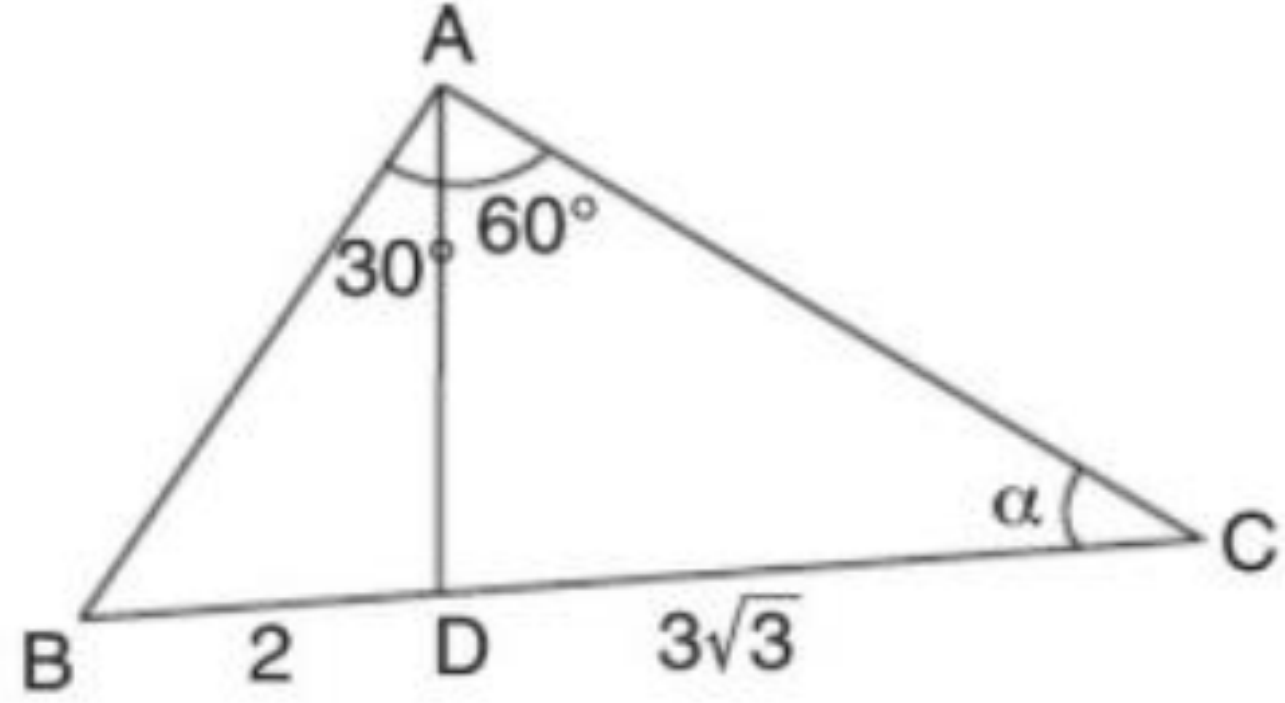
B) $\frac{\sqrt{3}}{2}$

C) $\frac{\sqrt{3}}{3}$

D) $\frac{3}{2}$

E) 2

2.



ABC üçgen

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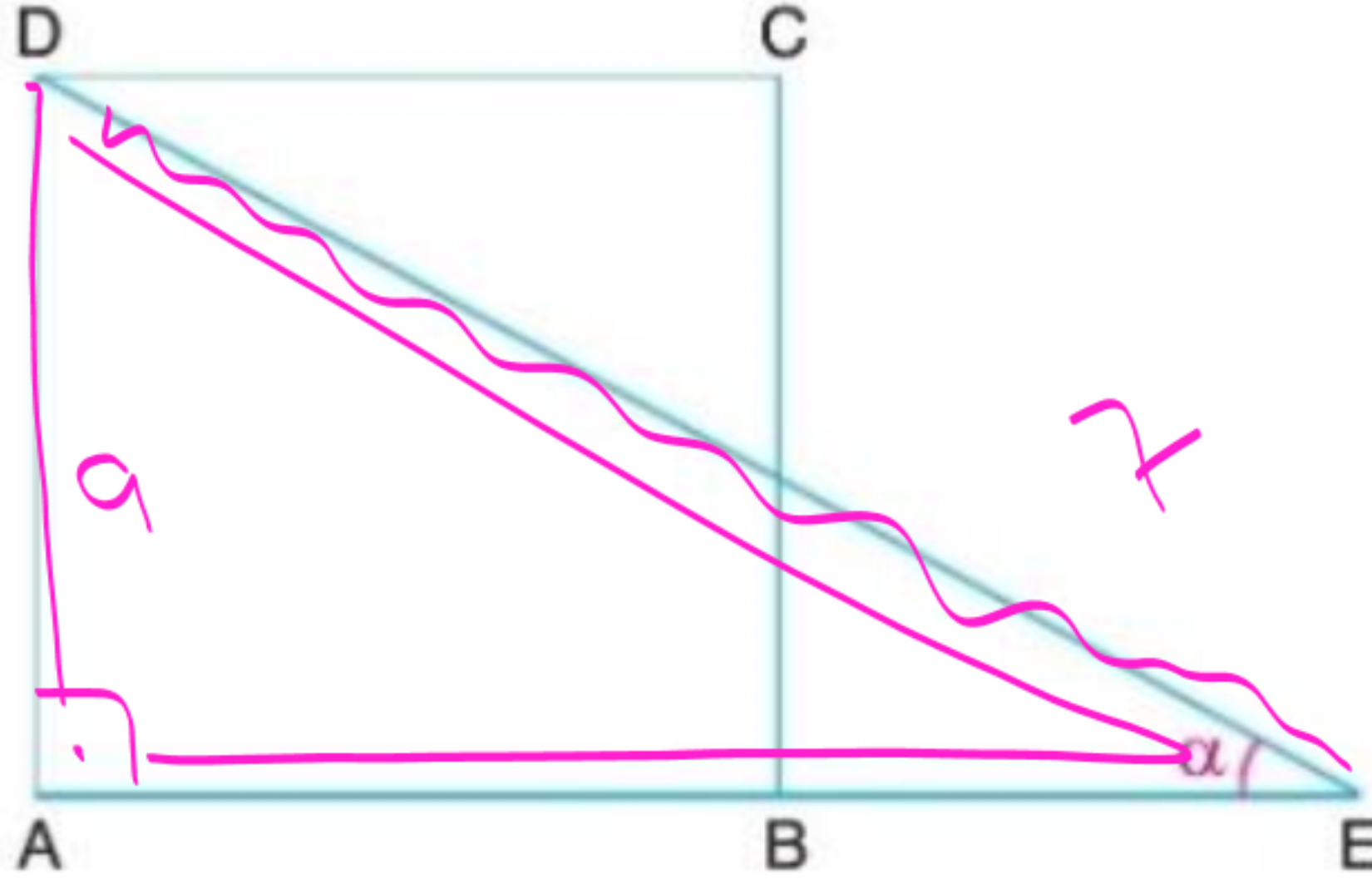
B) $\frac{\sqrt{3}}{2}$

C) $\frac{\sqrt{3}}{3}$

D) $\frac{3}{2}$

E) 2

3.



ABCD bir kare, $|DE| = 7$ cm, $m(\widehat{DEA}) = \alpha$

Yukarıdaki şekilde $\sec^2 \alpha + \frac{1}{\cos^2 \alpha} = \frac{7}{2}$ olduğuna göre,

Alan(ABCD) kaç cm^2 dir?

A) 14

B) $\frac{35}{2}$

C) 21

D) $\frac{49}{2}$

E) 28

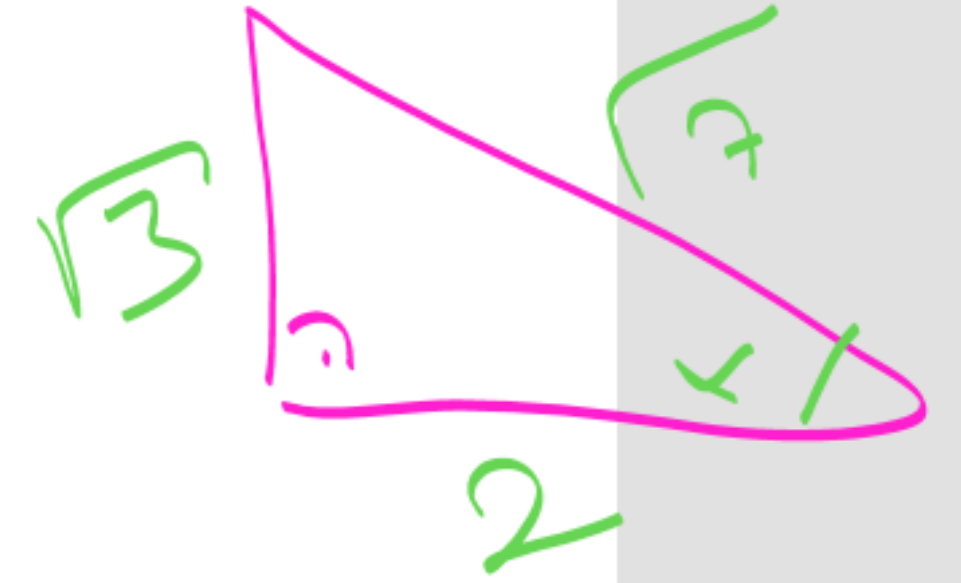
$$\sin \alpha = \frac{a}{7}$$

$$\sin \alpha = \frac{\sqrt{21}}{7}$$

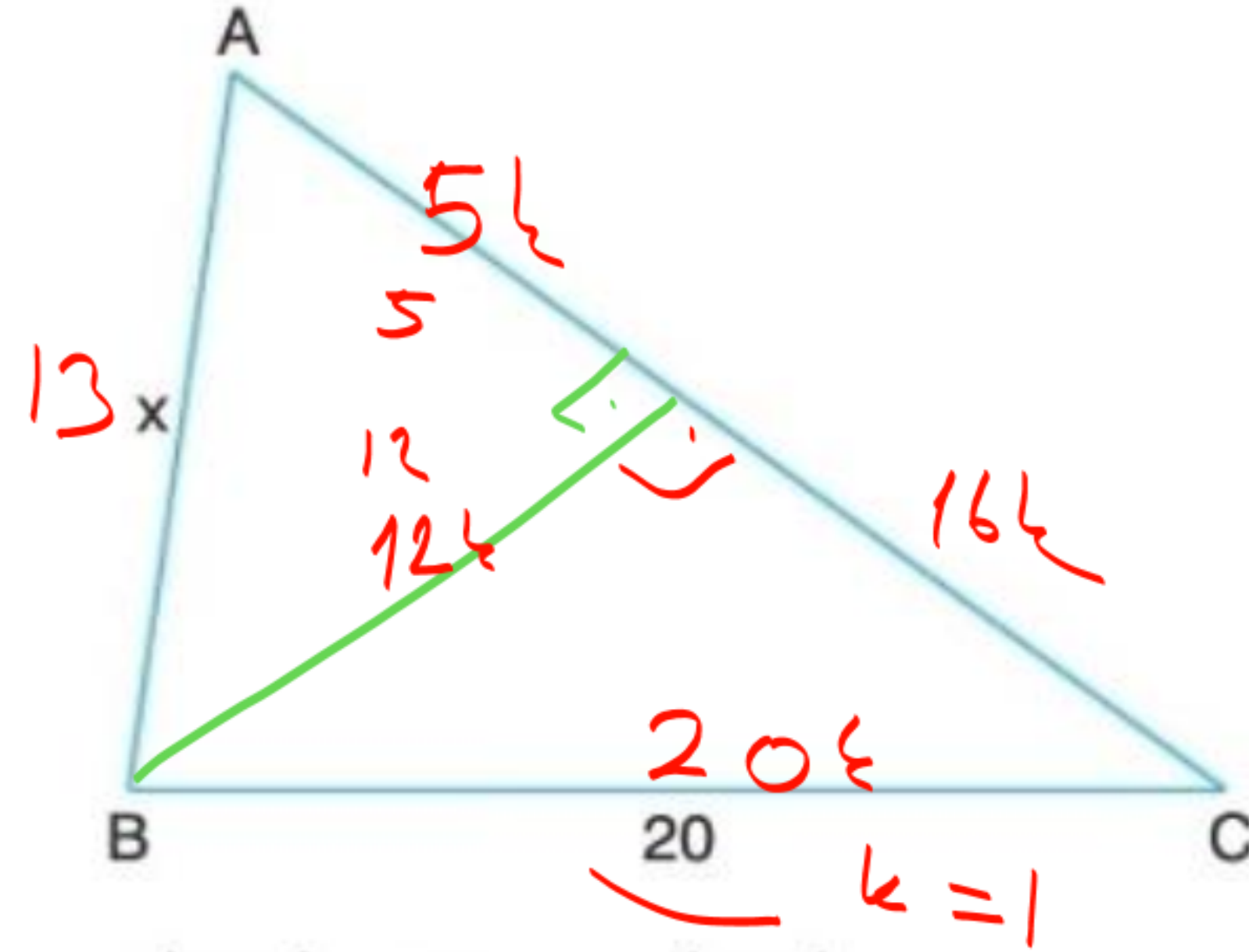
$$\frac{a}{7} = \frac{\sqrt{21}}{7}$$

$$a = \sqrt{21}$$

$$\text{Alan} = a^2 = 21$$



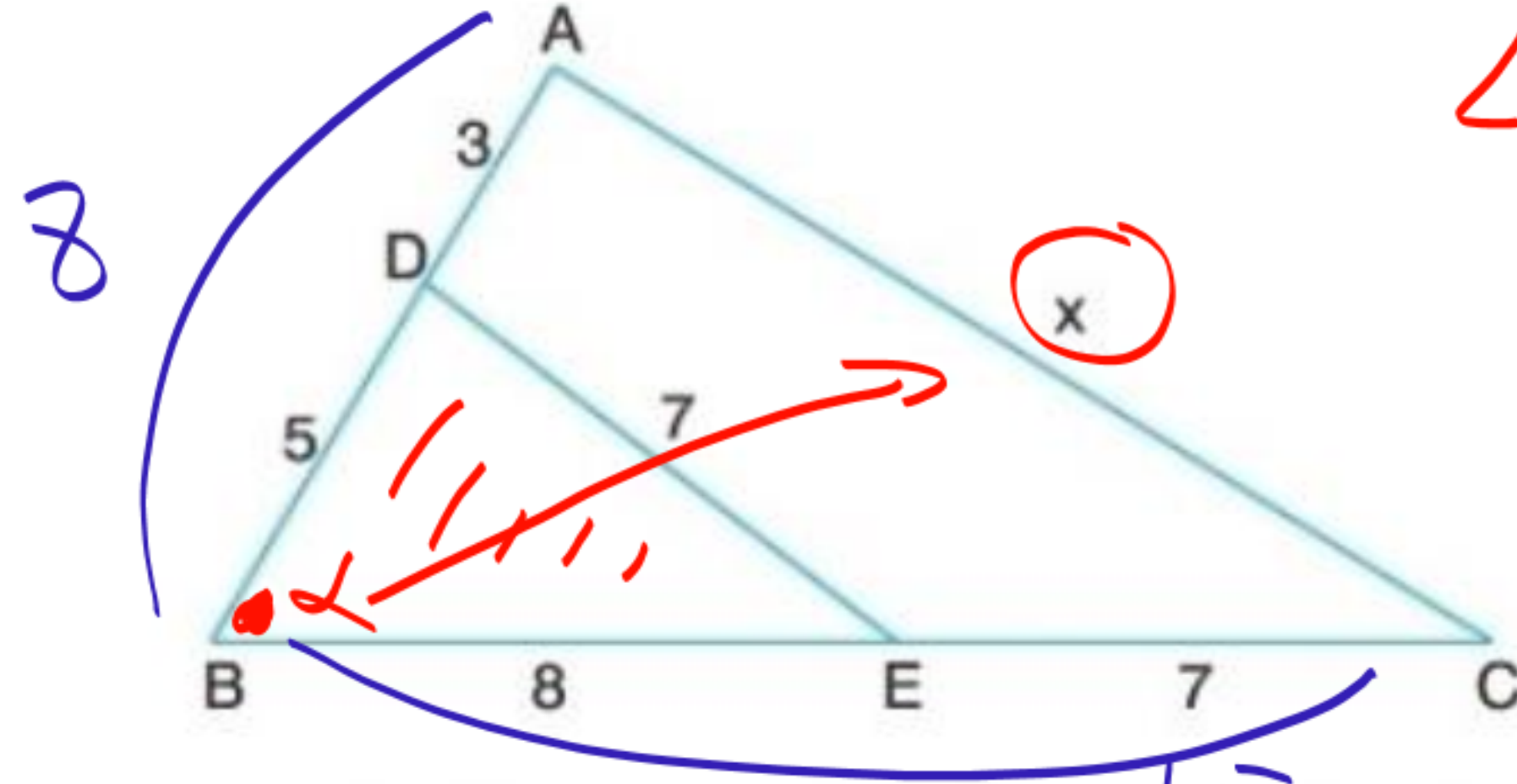
5.



ABC bir üçgen, $|BC| = 20$ cm, $|AB| = x$

Yukarıdaki şekilde $\tan \hat{A} = \frac{12}{5}$, $\cot \hat{C} = \frac{4}{3}$ olduğuna göre, x kaç cm'dir?

6.



ABC bir üçgen, $|AD| = 3$ cm, $|BD| = 5$ cm, $|BE| = 8$ cm

$|DE| = |EC| = 7$ cm, $|AC| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

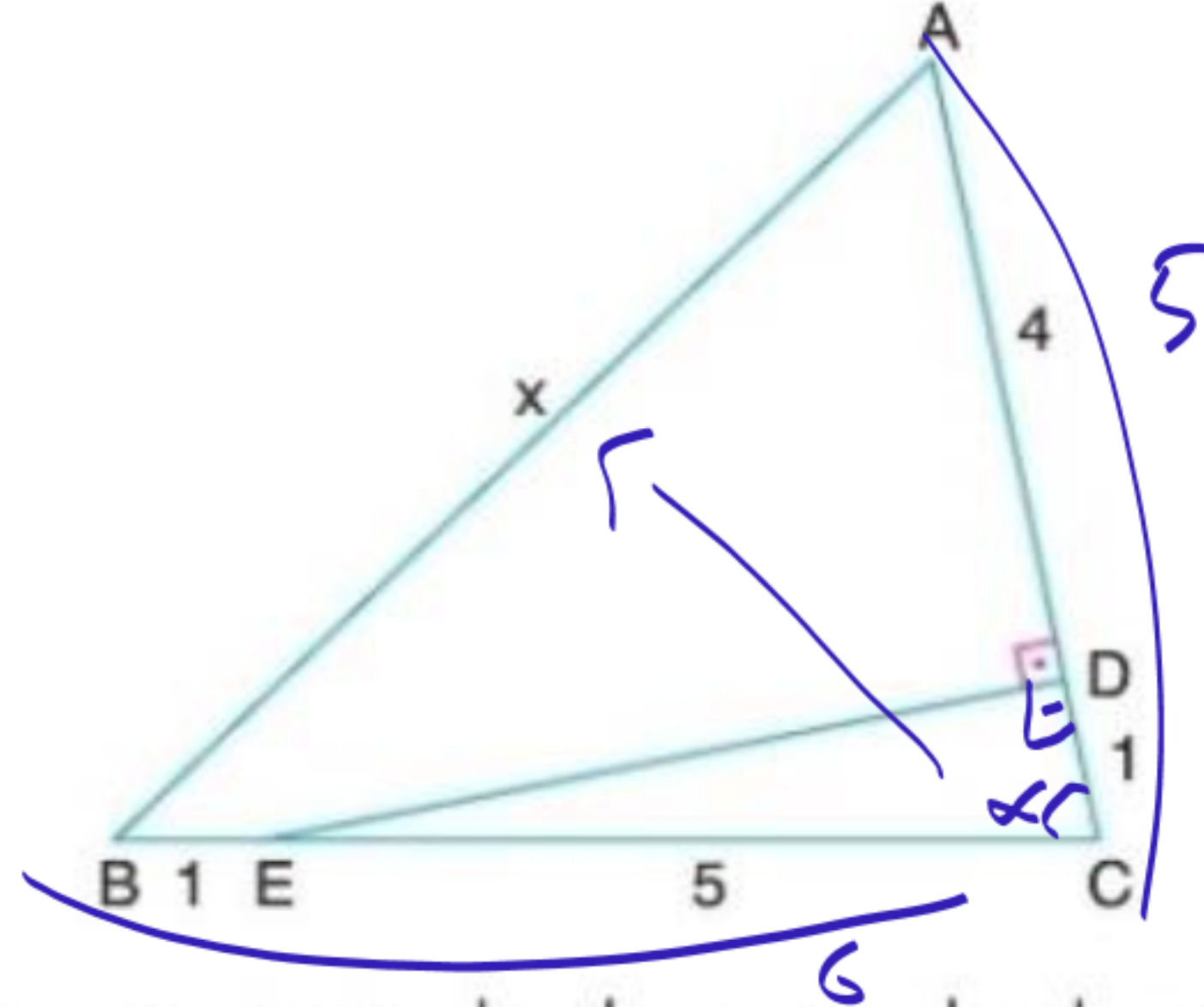
$$7^2 = 5^2 + 8^2 - 2 \cdot 5 \cdot 8 \cdot \cos \alpha$$

$$49 = 25 + 64 - 80 \cos \alpha$$

$$\cos \alpha = \frac{1}{2}$$

$$x^2 = 8^2 + 15^2 - 2 \cdot 8 \cdot 15 \cdot \left(+\frac{1}{2}\right)$$

7.



$$\cos \alpha = \frac{1}{5}$$

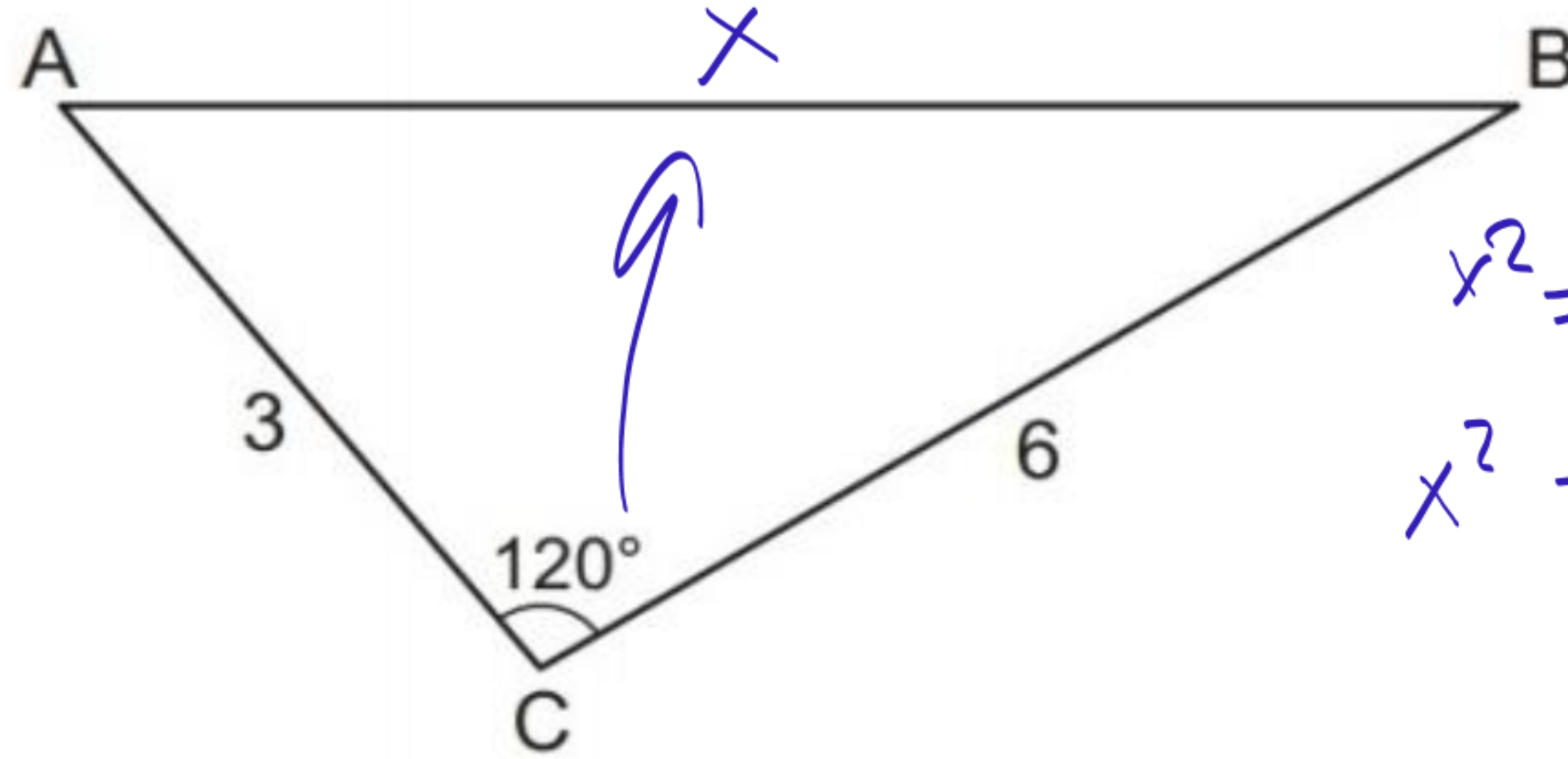
$$x^2 = 5^2 + 6^2 - 2 \cdot 5 \cdot 6 \cdot \frac{1}{5}$$

ABC bir üçgen, $ED \perp AC$, $|EC| = 5 \text{ cm}$, $|AD| = 4 \text{ cm}$

$|BE| = |DC| = 1 \text{ cm}$, $|AB| = x$

Yukarıdaki verilere göre, x kaç cm'dir?

11.



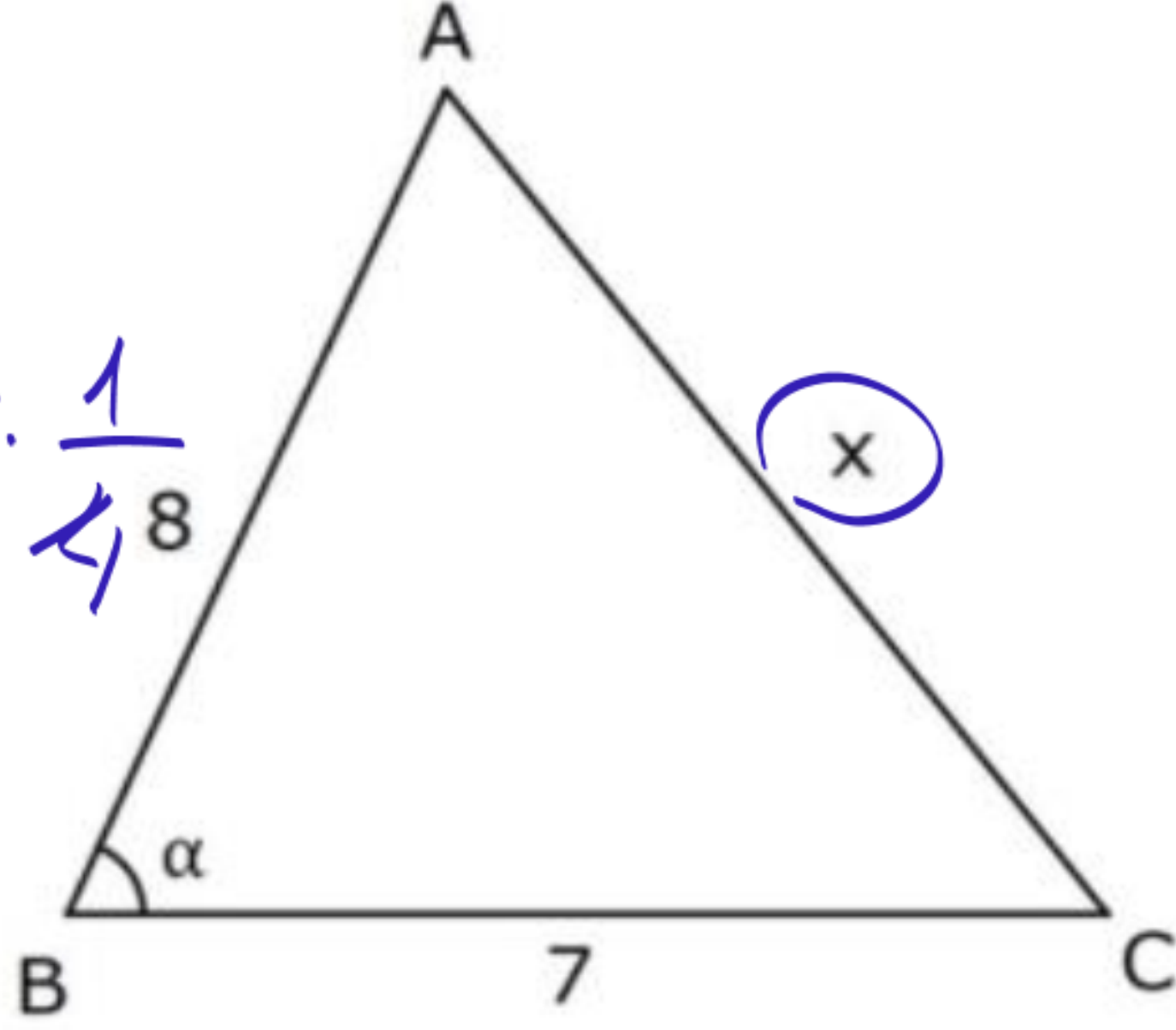
$$x^2 = 3^2 + 6^2 - 2 \cdot 3 \cdot 6 \left(-\frac{1}{2}\right)$$

$$x^2 = 9 + 36 + 18$$

ABC üçgeninde $m(\widehat{ACB}) = 120^\circ$, $|AC| = 3$ cm ve $|BC| = 6$ cm olduğuna göre $|AB|$ kaç santimetredir?

- A) $3\sqrt{7}$ B) $3\sqrt{5}$ C) $3\sqrt{3}$ D) $3\sqrt{2}$ E) 2

12.



ABC üçgen

$$|AB| = 8 \text{ cm}$$

$$|BC| = 7 \text{ cm}$$

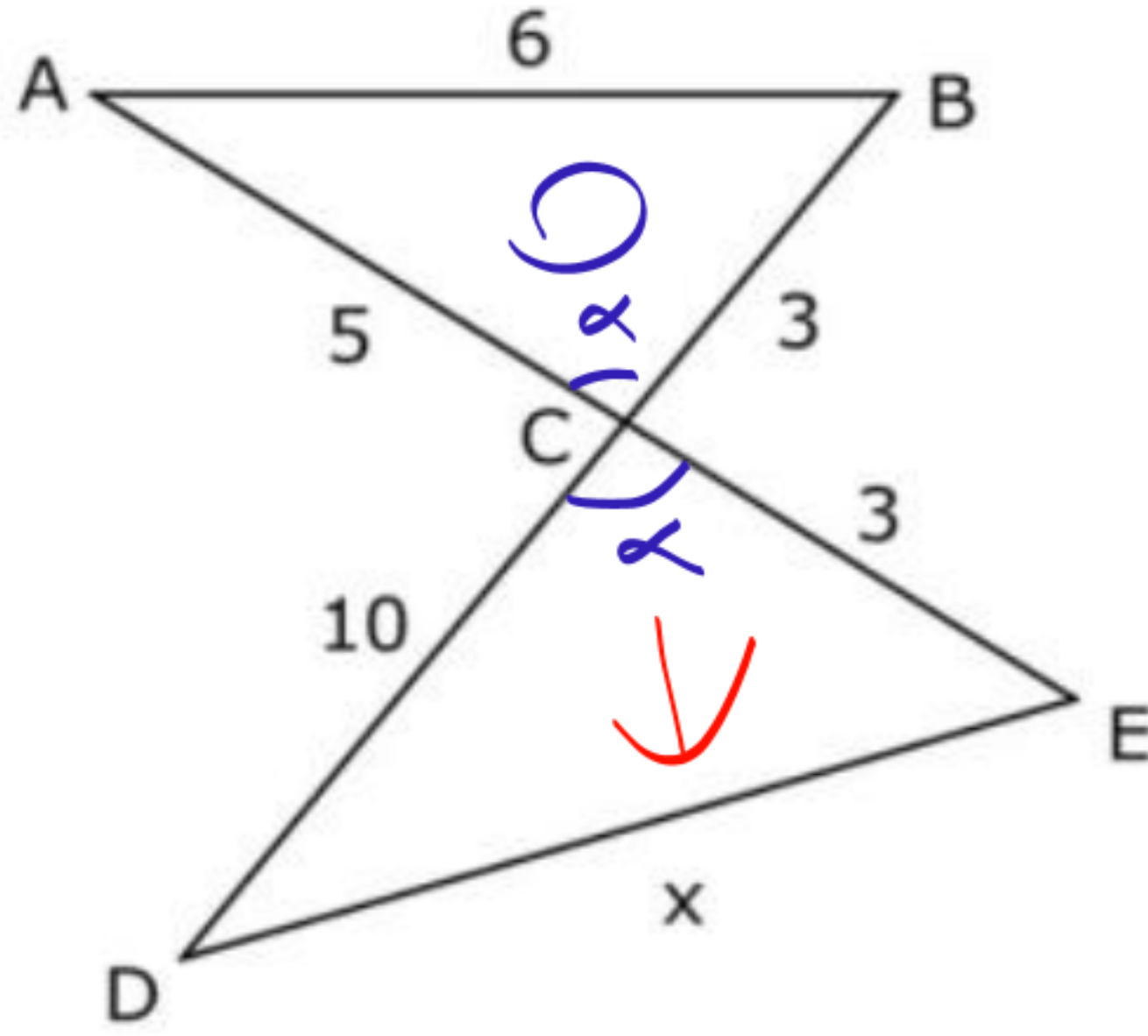
$$|AC| = x$$

$$\cos \alpha = \frac{1}{4}$$

Yukarıda verilenlere göre, x kaç cm dir?

- A) $3\sqrt{7}$ B) 8 C) $5\sqrt{3}$ D) $\sqrt{85}$ E) $6\sqrt{6}$

13.



$$[AE] \cap [DB] = \{C\}$$

$$|AB| = 6 \text{ cm}$$

$$|AC| = 5 \text{ cm}$$

$$|CE| = 3 \text{ cm}$$

$$|BC| = 3 \text{ cm}$$

$$|DC| = 10 \text{ cm}$$

$$|DE| = x$$

$$6^2 = 3^2 + 5^2 - 2 \cdot 3 \cdot 5 \cdot \cos x$$

$$\cos x = -\frac{1}{5}$$

$$x^2 = 10^2 + 3^2 - 2 \cdot 10 \cdot 3 \cdot \left(-\frac{1}{5}\right)$$

$$x = \sqrt{113}$$

Yukarıda verilenlere göre, x kaç cm dir?

- A) 10 B) $\sqrt{106}$ C) 11 D) $4\sqrt{7}$ E) $\sqrt{113}$

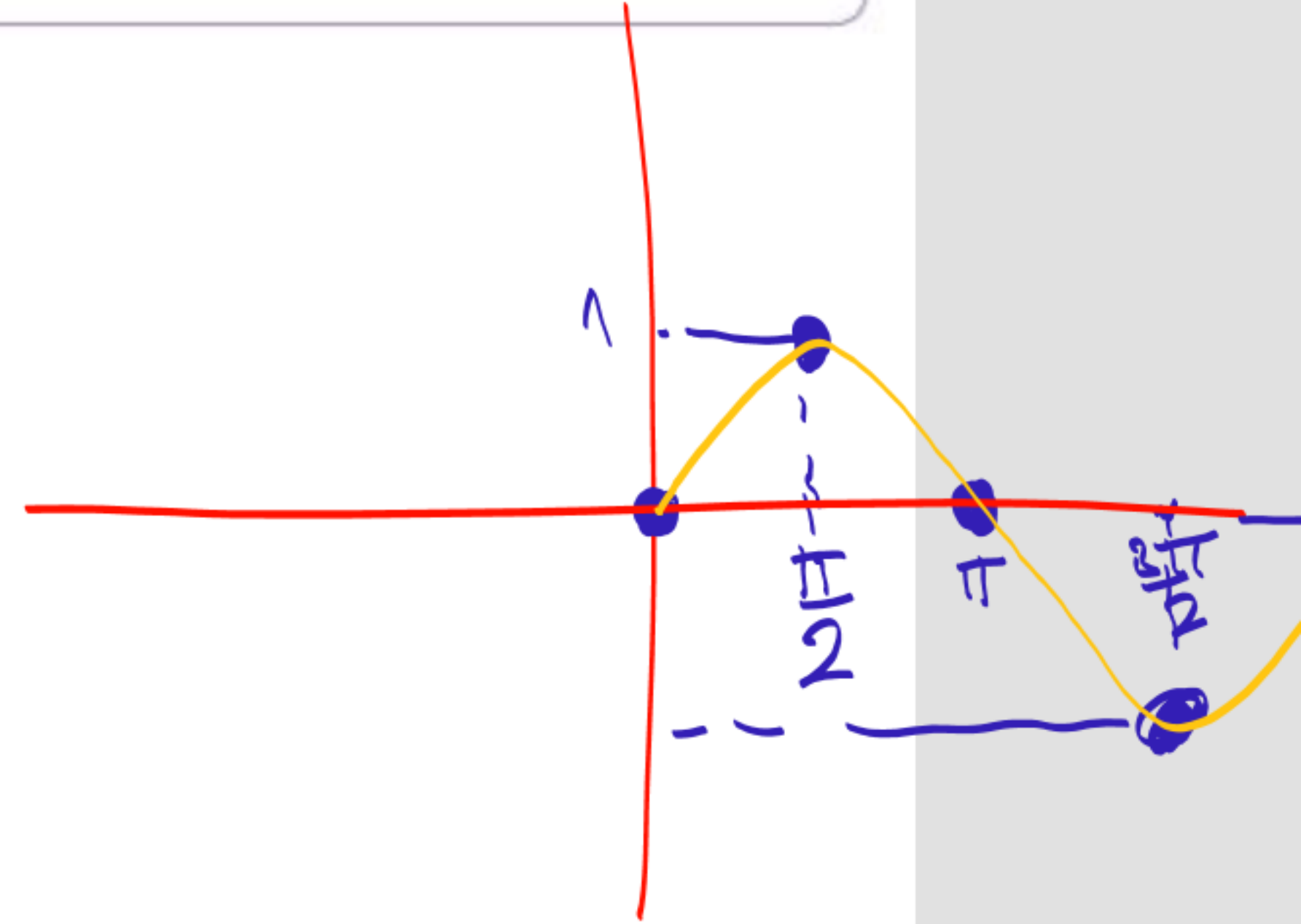
$$f: \left[-\frac{\pi}{2}, \frac{\pi}{2}\right] \rightarrow [-1, 1]$$

1.

$$\underline{f(x) = \sin x}$$

fonksiyonunun grafiğini çiziniz.

	0°	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π
$\sin x$	0	1	0	-1	0



2.

$$f(x) = \sin\left(\frac{x}{2}\right)$$

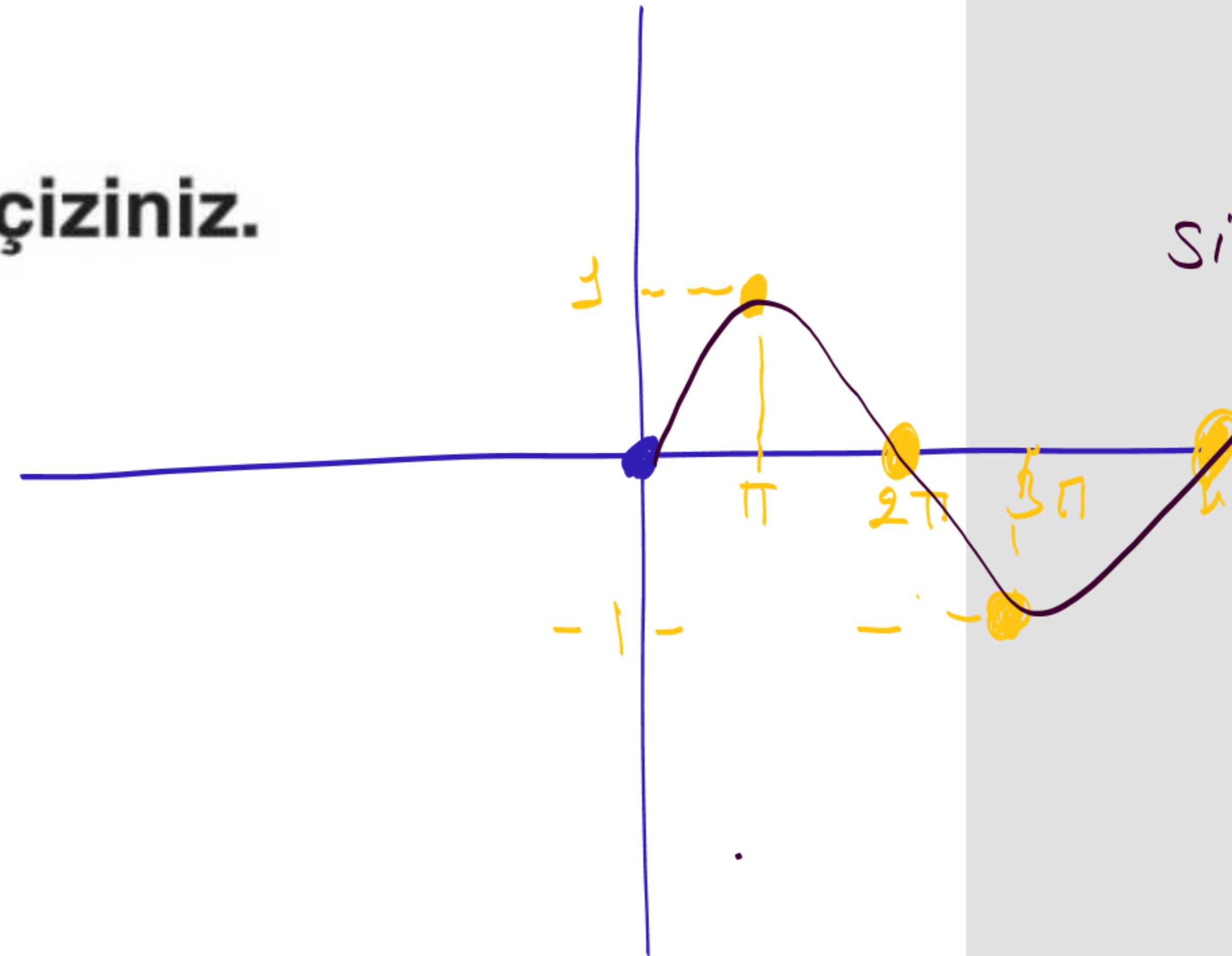
fonksiyonunun grafiğini çiziniz.

$$x=0 \text{ için } y = \sin(0) = 0$$

$$x=\pi \quad y = \sin\left(\frac{\pi}{2}\right) = 1$$

$$x=2\pi \quad y = \sin(\pi) = 0$$

$$x=3\pi \quad y = \sin\left(\frac{3\pi}{2}\right) = -1$$



3.

$y = f(x)$ fonksiyonu verildiğinde,

i) $y = -f(x)$ grafiğini çizmek için x eksenine göre simetri alınır.

ii) $y = f(-x)$ grafiğini çizmek için y eksenine göre simetri alınır.

iii) $y = -f(-x)$ grafiğini çizmek için hem x hem y eksenine göre simetri alınır.

$$f(x) = x$$

$$-f(x) = -x$$

$$f(2) = 5$$

$$f(2) =$$

$$(2, 5)$$

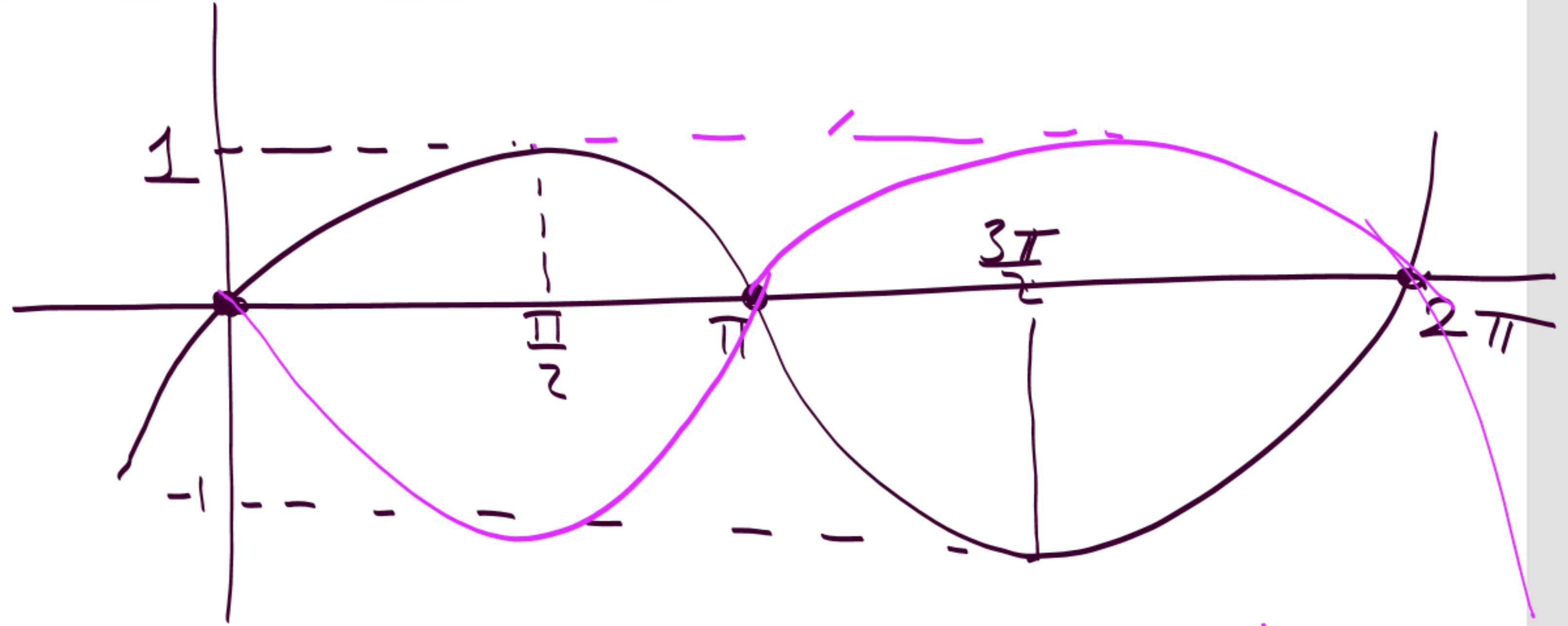
$$(2, -5)$$

4.

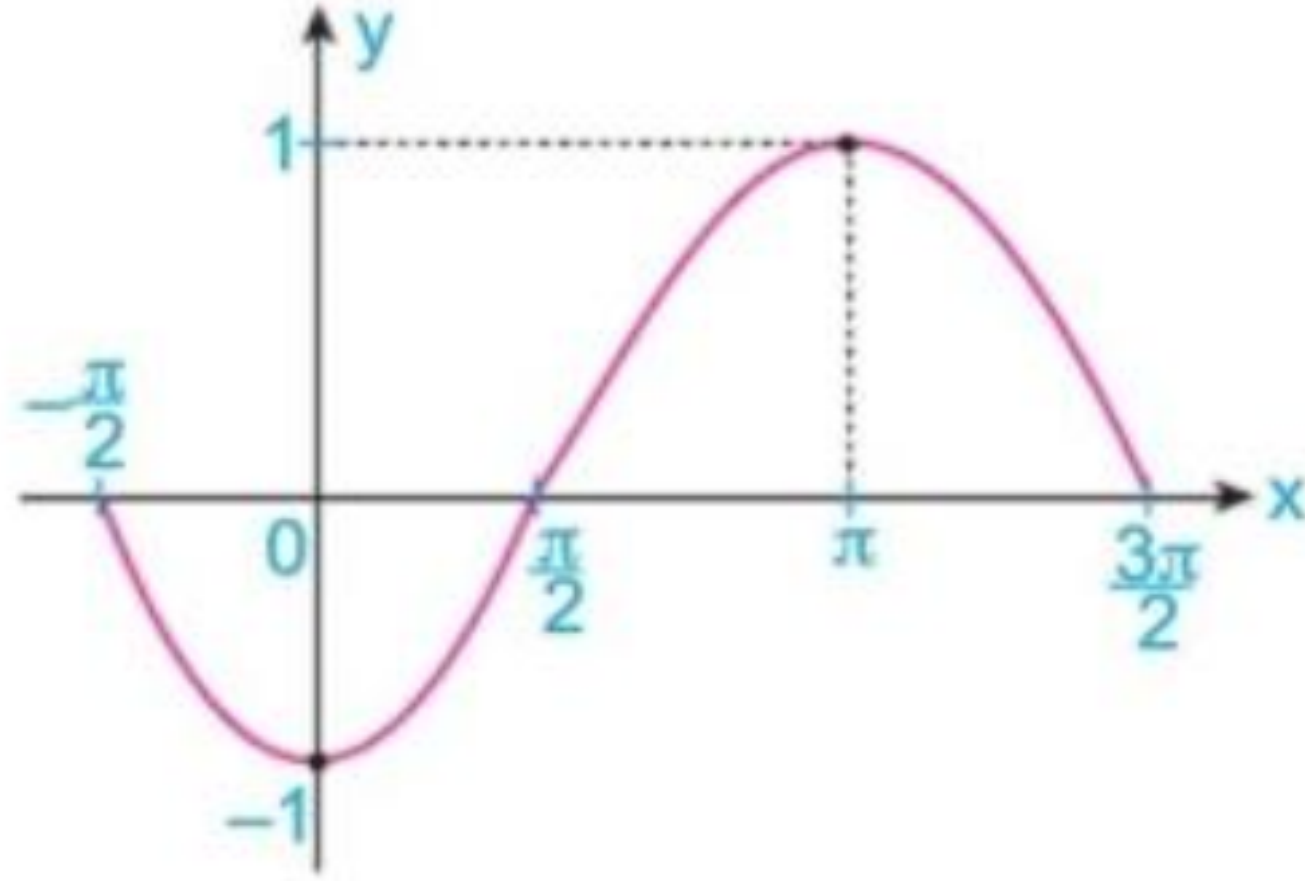
$$f(x) = \sin x$$

fonksiyonunun grafiğini kullanarak aşağıda belirtilen fonksiyonların grafiklerini çiziniz.

$$y = -f(x)$$



5.



Der

Yukarıda $\left[-\frac{\pi}{2}, \frac{3\pi}{2}\right]$ aralığında verilen fonksiyon grafiği hangisine aittir?

- A) $y = \cos x$ B) $y = \sin x$ C) $y = \cos 2x$
D) $y = -\sin x$ E) $y = -\cos x$