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## Trigonometriskās funkcijas (Skolotāja materiāli)

Materiāls izstrādāts

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kompetences paaugstināšana"

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"Profesionālajā izglītībā iesaistīto vispārizglītojošo mācību priekšmetu pedagogu  
kompetences paaugstināšana"

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Rīga, 2011.

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# 1. Trigonometrisko funkciju definīcijas

1) Skaitlim  $\alpha$  atbilstošā vienības riņķa līnijas punkta abscisa ir vienāda ar

- (a)  $\sin \alpha$                       (b)  $\cos \alpha$                       (c)  $\operatorname{tg} \alpha$                       (d)  $\operatorname{ctg} \alpha$

2) Skaitlim  $\alpha$  atbilstošā vienības riņķa līnijas punkta ordināta ir vienāda ar

- (a)  $\sin \alpha$                       (b)  $\cos \alpha$                       (c)  $\operatorname{tg} \alpha$                       (d)  $\operatorname{ctg} \alpha$

3) Skaitļa  $\alpha$  sinusa attiecība pret tā kosinusu ir vienāda ar

- (a)  $\sin \alpha$                       (b)  $\cos \alpha$                       (c)  $\operatorname{tg} \alpha$                       (d)  $\operatorname{ctg} \alpha$

4) Skaitļa  $\alpha$  kosinusa attiecība pret tā sinusu ir vienāda ar

- (a)  $\sin \alpha$                       (b)  $\cos \alpha$                       (c)  $\operatorname{tg} \alpha$                       (d)  $\operatorname{ctg} \alpha$

5)  $\sin \alpha$  ir pozitīvs kvadrantos:

(a) I,II    (b) I,III    (c) I,IY    (d) II,III    (e) II,IY    (f) III,IY

6)  $\cos \alpha$  ir negatīvs kvadrantos:

(a) I,II    (b) I,III    (c) I,IY    (d) II,III    (e) II,IY    (f) III,IY

7)  $\operatorname{ctg} \alpha$  ir negatīvs kvadrantos:

(a) I,II    (b) I,III    (c) I,IY    (d) II,III    (e) II,IY    (f) III,IY

8)  $\operatorname{tg} \alpha$  ir pozitīvs kvadrantos:

(a) I,II    (b) I,III    (c) I,IY    (d) II,III    (e) II,IY    (f) III,IY

9)  $\operatorname{tg} \alpha$  ir negatīvs kvadrantos:

- (a) I,II    (b) I,III    (c) I,IY    (d) II,III    (e) II,IY    (f) III,IY

10)  $\operatorname{ctg} \alpha$  ir pozitīvs kvadrantos:

- (a) I,II    (b) I,III    (c) I,IY    (d) II,III    (e) II,IY    (f) III,IY

11)  $\sin \alpha$  ir negatīvs kvadrantos:

- (a) I,II    (b) I,III    (c) I,IY    (d) II,III    (e) II,IY    (f) III,IY

12)  $\cos \alpha$  ir pozitīvs kvadrantos:

- (a) I,II    (b) I,III    (c) I,IY    (d) II,III    (e) II,IY    (f) III,IY

## 2. Trigonometrisko funkciju vērtības (I)

Sākt!

1.  $\cos \frac{\pi}{6} =$

|  |     |               |                      |                      |                      |     |
|--|-----|---------------|----------------------|----------------------|----------------------|-----|
|  | $0$ | $\frac{1}{2}$ | $\frac{\sqrt{3}}{3}$ | $\frac{\sqrt{2}}{2}$ | $\frac{\sqrt{3}}{2}$ | $1$ |
|--|-----|---------------|----------------------|----------------------|----------------------|-----|

2.  $\operatorname{tg} \frac{\pi}{4} =$

|  |     |               |                      |                      |                      |     |
|--|-----|---------------|----------------------|----------------------|----------------------|-----|
|  | $0$ | $\frac{1}{2}$ | $\frac{\sqrt{3}}{3}$ | $\frac{\sqrt{2}}{2}$ | $\frac{\sqrt{3}}{2}$ | $1$ |
|--|-----|---------------|----------------------|----------------------|----------------------|-----|

3.  $\sin \frac{\pi}{3} =$

|  |     |               |                      |                      |                      |     |
|--|-----|---------------|----------------------|----------------------|----------------------|-----|
|  | $0$ | $\frac{1}{2}$ | $\frac{\sqrt{3}}{3}$ | $\frac{\sqrt{2}}{2}$ | $\frac{\sqrt{3}}{2}$ | $1$ |
|--|-----|---------------|----------------------|----------------------|----------------------|-----|

4.  $\operatorname{ctg} \frac{\pi}{3} =$

|  |     |               |                      |                      |                      |     |
|--|-----|---------------|----------------------|----------------------|----------------------|-----|
|  | $0$ | $\frac{1}{2}$ | $\frac{\sqrt{3}}{3}$ | $\frac{\sqrt{2}}{2}$ | $\frac{\sqrt{3}}{2}$ | $1$ |
|--|-----|---------------|----------------------|----------------------|----------------------|-----|

5.  $\sin \frac{\pi}{2} =$

|  |     |               |                      |                      |                      |     |
|--|-----|---------------|----------------------|----------------------|----------------------|-----|
|  | $0$ | $\frac{1}{2}$ | $\frac{\sqrt{3}}{3}$ | $\frac{\sqrt{2}}{2}$ | $\frac{\sqrt{3}}{2}$ | $1$ |
|--|-----|---------------|----------------------|----------------------|----------------------|-----|

6.  $\operatorname{tg} 0 =$

$$0 \quad \frac{1}{2} \quad \frac{\sqrt{3}}{3} \quad \frac{\sqrt{2}}{2} \quad \frac{\sqrt{3}}{2} \quad 1$$

7.  $\sin \frac{\pi}{6} =$

$$0 \quad \frac{1}{2} \quad \frac{\sqrt{3}}{3} \quad \frac{\sqrt{2}}{2} \quad \frac{\sqrt{3}}{2} \quad 1$$

8.  $\cos \frac{\pi}{4} =$

$$0 \quad \frac{1}{2} \quad \frac{\sqrt{3}}{3} \quad \frac{\sqrt{2}}{2} \quad \frac{\sqrt{3}}{2} \quad 1$$

9.  $\operatorname{ctg} \frac{\pi}{4} =$

$$0 \quad \frac{1}{2} \quad \frac{\sqrt{3}}{3} \quad \frac{\sqrt{2}}{2} \quad \frac{\sqrt{3}}{2} \quad 1$$

10.  $\sin 0 =$

$$0 \quad \frac{1}{2} \quad \frac{\sqrt{3}}{3} \quad \frac{\sqrt{2}}{2} \quad \frac{\sqrt{3}}{2} \quad 1$$

Beigt!

## 3. Trigonometrisko funkciju vērtības (II)

Sākt!

1.  $\sin \frac{3\pi}{2} =$

-1                      0                      1                      nav definēts

2.  $\operatorname{tg} \frac{\pi}{2} =$

-1                      0                      1                      nav definēts

3.  $\cos \pi =$

-1                      0                      1                      nav definēts

4.  $\operatorname{ctg} 0 =$

-1                      0                      1                      nav definēts

5.  $\cos \frac{\pi}{2} =$

-1                      0                      1                      nav definēts



6.  $\operatorname{tg} \pi =$

|    |   |   |              |
|----|---|---|--------------|
| -1 | 0 | 1 | nav definēts |
|----|---|---|--------------|

7.  $\sin \pi =$

|    |   |   |              |
|----|---|---|--------------|
| -1 | 0 | 1 | nav definēts |
|----|---|---|--------------|

8.  $\operatorname{ctg} \frac{3\pi}{2} =$

|    |   |   |              |
|----|---|---|--------------|
| -1 | 0 | 1 | nav definēts |
|----|---|---|--------------|

9.  $\cos 2\pi =$

|    |   |   |              |
|----|---|---|--------------|
| -1 | 0 | 1 | nav definēts |
|----|---|---|--------------|

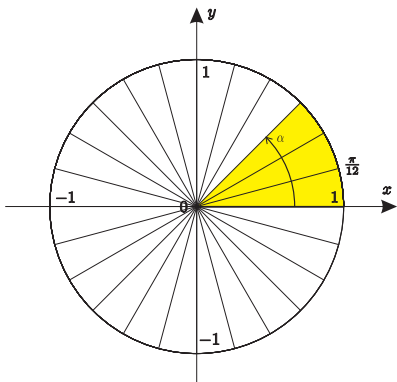
10.  $\operatorname{tg} \frac{\pi}{4} =$

|    |   |   |              |
|----|---|---|--------------|
| -1 | 0 | 1 | nav definēts |
|----|---|---|--------------|

Beigt!

## 4. Trigonometrisko funkciju vērtības (III)

Sākt!



1.  $\sin \alpha =$

-1

$-\frac{1}{2}$

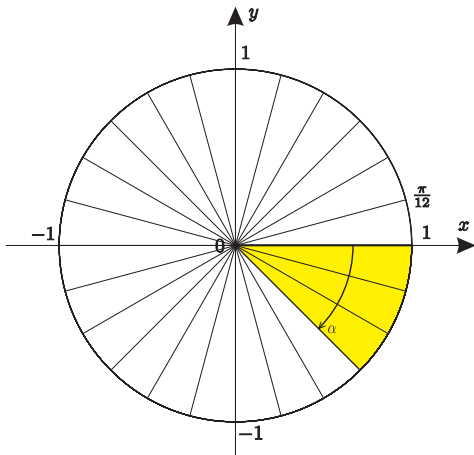
$\frac{1}{2}$

$\sqrt{3}$

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

$-\frac{\sqrt{3}}{2}$

$\frac{\sqrt{2}}{2}$



2.  $\operatorname{tg} \alpha =$

-1

$-\frac{1}{2}$

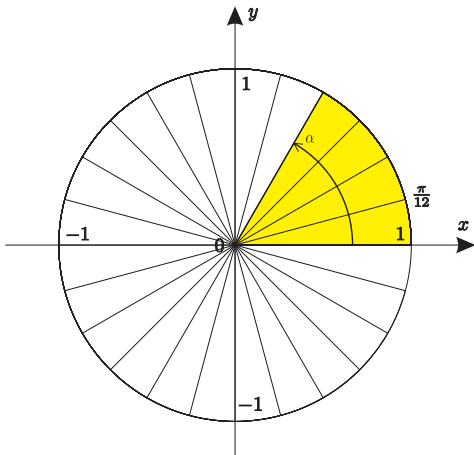
$\frac{1}{2}$

$\sqrt{3}$

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

$-\frac{\sqrt{3}}{2}$

$\frac{\sqrt{2}}{2}$



3.  $\cos \alpha =$

-1

$-\frac{1}{2}$

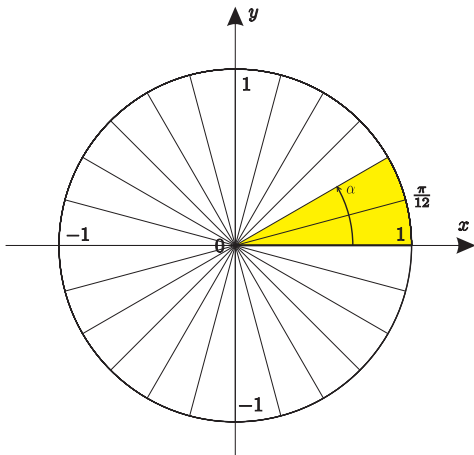
$\frac{1}{2}$

$\sqrt{3}$

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

$-\frac{\sqrt{3}}{2}$

$\frac{\sqrt{2}}{2}$



4.  $\operatorname{ctg} \alpha =$

-1

$-\frac{1}{2}$

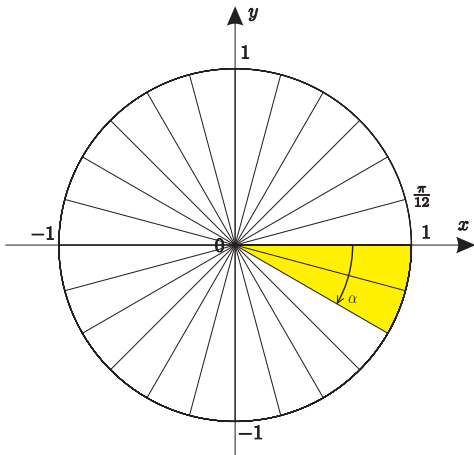
$\frac{1}{2}$

$\sqrt{3}$

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

$-\frac{\sqrt{3}}{2}$

$\frac{\sqrt{2}}{2}$



5.  $\sin \alpha =$

-1

$-\frac{1}{2}$

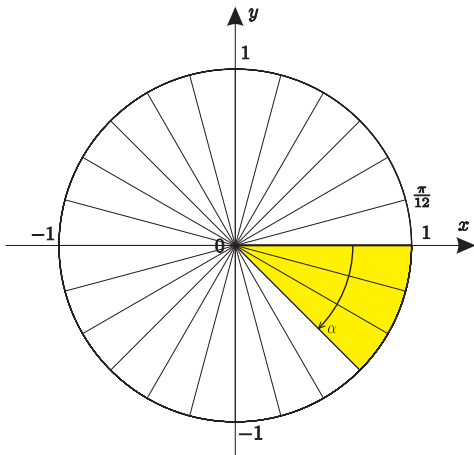
$\frac{1}{2}$

$\sqrt{3}$

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

$-\frac{\sqrt{3}}{2}$

$\frac{\sqrt{2}}{2}$



6.  $\operatorname{ctg} \alpha =$

-1

$-\frac{1}{2}$

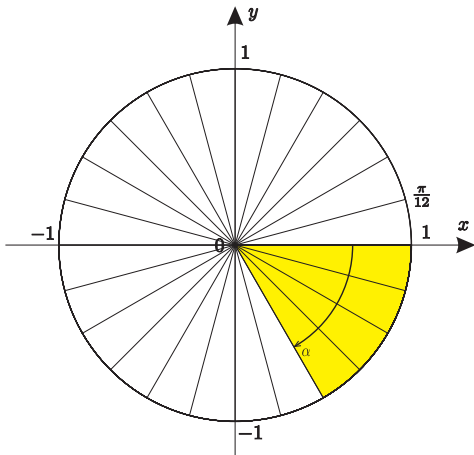
$\frac{1}{2}$

$\sqrt{3}$

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

$-\frac{\sqrt{3}}{2}$

$\frac{\sqrt{2}}{2}$



7.  $\sin \alpha =$

-1

$-\frac{1}{2}$

$\frac{1}{2}$

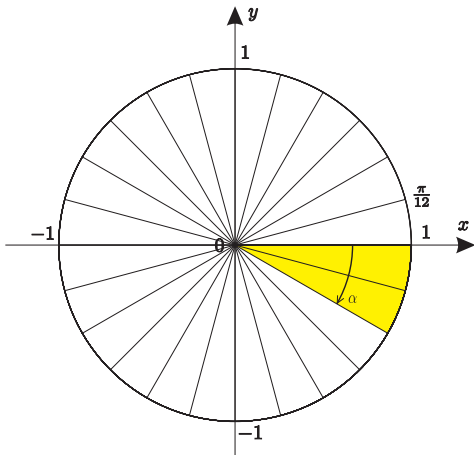
$\sqrt{3}$

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

$-\frac{\sqrt{3}}{2}$

$\frac{\sqrt{2}}{2}$





8.  $\cos \alpha =$

-1

$-\frac{1}{2}$

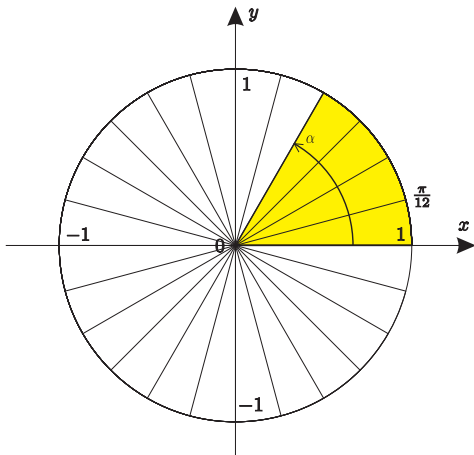
$\frac{1}{2}$

$\sqrt{3}$

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

$-\frac{\sqrt{3}}{2}$

$\frac{\sqrt{2}}{2}$



9.  $\operatorname{tg} \alpha =$

-1

$-\frac{1}{2}$

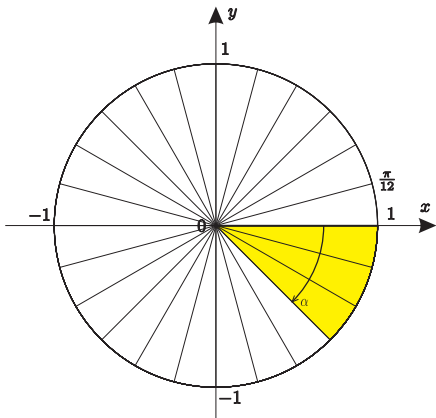
$\frac{1}{2}$

$\sqrt{3}$

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

$-\frac{\sqrt{3}}{2}$

$\frac{\sqrt{2}}{2}$



10.  $\cos \alpha =$

-1

$-\frac{1}{2}$

$\frac{1}{2}$

$\sqrt{3}$

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

$-\frac{\sqrt{3}}{2}$

$\frac{\sqrt{2}}{2}$

Beigt!