Trigonométrie

# Question 1/35

$$t = \tan\left(\frac{x}{2}\right)$$

 $\cos(x)$ 

## Réponse 1/35

$$\frac{1 - t^2}{1 + t^2}$$
$$t = \tan\left(\frac{x}{2}\right)$$

## Question 2/35

$$\frac{1 + \cos(2x)}{2}$$

#### Réponse 2/35

$$\cos^2(x)$$

#### Question 3/35

$$\frac{-\cot(x)\cot(y)-1}{\cot(x)-\cot(y)} = \frac{\cot(x)\cot(y)+1}{\cot(y)-\cot(x)}$$

#### Réponse 3/35

$$\cot(x-y)$$

## Question 4/35

$$2\sin\left(\frac{x+y}{2}\right)\cos\left(\frac{x-y}{2}\right)$$

## Réponse 4/35

$$\sin(x) + \sin(y)$$

# Question 5/35

$$t = \tan\left(\frac{x}{2}\right)$$

 $\sin(x)$ 

## Réponse 5/35

$$\frac{2t}{1+t^2}$$
$$t = \tan\left(\frac{x}{2}\right)$$

## Question 6/35

$$\frac{\cot(x)\cot(y) - 1}{\cot(x) + \cot(y)}$$

#### Réponse 6/35

$$\cot(x+y)$$

# Question 7/35

$$-\sin(x)$$

#### Réponse 7/35

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

# Question 8/35

$$\sin(x+\pi)$$

#### Réponse 8/35

$$-\sin(x)$$

# Question 9/35

 $\cot(2x)$ 

## Réponse 9/35

$$\frac{\cot^2(x) - 1}{2\cot(x)}$$

## Question 10/35

$$-\cos(x)$$

## Réponse 10/35

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

#### Question 11/35

$$\frac{1}{2}(\sin(x+y) - \sin(x-y))$$

## Réponse 11/35

$$\cos(x)\sin(y)$$

## Question 12/35

$$\tan(x+y)$$

## Réponse 12/35

$$\frac{\tan(x) + \tan(y)}{1 - \tan(x)\tan(y)}$$

#### Question 13/35

$$t = \tan\left(\frac{x}{2}\right)$$

# Réponse 13/35

$$\frac{2t}{1-t^2}$$
$$t = \tan\left(\frac{x}{2}\right)$$

#### Question 14/35

Valeurs remarquables

#### Réponse 14/35

|        | 0 | $\frac{\pi}{6}$      | $\frac{\pi}{4}$      | $\frac{\pi}{3}$      | $\frac{\pi}{2}$ |
|--------|---|----------------------|----------------------|----------------------|-----------------|
| $\sin$ | 0 | $\frac{1}{2}$        | $\frac{\sqrt{2}}{2}$ | $\frac{\sqrt{3}}{2}$ | 1               |
| cos    | 1 | $\frac{\sqrt{3}}{2}$ | $\frac{\sqrt{2}}{2}$ | $\frac{1}{2}$        | 0               |
| tan    | 0 | $\frac{1}{\sqrt{3}}$ | 1                    | $\sqrt{3}$           | _               |
| cot    | _ | $\sqrt{3}$           | 1                    | $\frac{1}{\sqrt{3}}$ | 0               |

#### Question 15/35

$$\sin(x)\cos(y) + \sin(y)\cos(x)$$

## Réponse 15/35

$$\sin(x+y)$$

#### Question 16/35

$$\frac{\tan(x) - \tan(y)}{1 + \tan(x)\tan(y)}$$

## Réponse 16/35

$$\tan(x-y)$$

#### Question 17/35

$$\sin(x)\cos(y) - \sin(y)\cos(x)$$

## Réponse 17/35

$$\sin(x-y)$$

#### Question 18/35

$$2\cos\left(\frac{x+y}{2}\right)\sin\left(\frac{x-y}{2}\right)$$

### Réponse 18/35

$$\sin(x) - \sin(y)$$

## Question 19/35

 $\cos(x)$ 

# Réponse 19/35

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

#### Question 20/35

$$\cos(x) + \cos(y)$$

### Réponse 20/35

$$2\cos\left(\frac{x+y}{2}\right)\cos\left(\frac{x-y}{2}\right)$$

#### Question 21/35

$$\frac{1}{2}(\sin(x+y) + \sin(x-y))$$

### Réponse 21/35

$$\sin(x)\cos(y)$$

#### Question 22/35

$$\frac{1}{2}(\cos(x-y) - \cos(x+y))$$

## Réponse 22/35

$$\sin(x)\sin(y)$$

# Question 23/35

$$\cot(x)$$
$$t = \tan\left(\frac{x}{2}\right)$$

# Réponse 23/35

$$\frac{1 - t^2}{2t}$$
$$t = \tan\left(\frac{x}{2}\right)$$

# Question 24/35

$$\sin^2(x)$$

# Réponse 24/35

$$\frac{1 - \cos(2x)}{2}$$

### Question 25/35

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

### Réponse 25/35

 $\cos(x)$ 

# Question 26/35

$$\cos(x+y)$$

### Réponse 26/35

$$\cos(x)\cos(y) - \sin(x)\sin(y)$$

# Question 27/35

$$\cos(x-y)$$

#### Réponse 27/35

$$\cos(x)\cos(y) + \sin(x)\sin(y)$$

#### Question 28/35

$$2\sin(x)\cos(x)$$

## Réponse 28/35

 $\sin(2x)$ 

### Question 29/35

$$\cos(x) - \cos(y)$$

### Réponse 29/35

$$-2\sin\left(\frac{x+y}{2}\right)\sin\left(\frac{x-y}{2}\right)$$

# Question 30/35

 $\tan(2x)$ 

# Réponse 30/35

$$\frac{2\tan(x)}{1-\tan^2(x)}$$

## Question 31/35

 $\sin(x)$ 

## Réponse 31/35

$$\sin(\pi - x)$$

# Question 32/35

$$-\cos(x)$$

## Réponse 32/35

$$\cos(x+\pi)$$

### Question 33/35

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

## Réponse 33/35

 $\sin(x)$ 

# Question 34/35

$$\cos(2x)$$

### Réponse 34/35

$$\cos^2(x) - \sin^2(x) = 2\cos^2(x) - 1 = 1 - 2\sin^2(x)$$

#### Question 35/35

$$\cos(x)\cos(y)$$

## Réponse 35/35

$$\frac{1}{2}(\cos(x+y) + \cos(x-y))$$