Level 2 Further Maths

Exact Trig Values

Ensure you have: Pencil or pen

Guidance
1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Revision for this topic

www.corbettmaths.com/more/further-maths/
1. Shown below is an equilateral triangle, ABC, with side length 2cm.

(a) By using the triangle, show \( \sin 30^\circ = \frac{1}{2} \)

(b) By using the triangle, show \( \sin 60^\circ = \frac{\sqrt{3}}{2} \)
2. Shown below is an equilateral triangle, ABC, with side length 2cm.

(a) By using the triangle, show $\cos 30^\circ = \frac{\sqrt{3}}{2}$

(b) By using the triangle, show $\cos 60^\circ = \frac{1}{2}$
3. Shown below is an isosceles, right angled triangle, ABC.

\[ AB = AC = 1 \text{cm} \]

(a) By using the triangle, show \( \sin 45^\circ = \frac{\sqrt{2}}{2} \)

(b) By using the triangle, show \( \cos 45^\circ = \frac{\sqrt{2}}{2} \)
4. Write down the exact value of $\sin 0^\circ$

........................

(1)

5. Write down the exact value of $\cos 60^\circ$

........................

(1)

6. Write down the exact value of $\sin 30^\circ$

........................

(1)

7. Write down the exact value of $\tan 0^\circ$

........................

(1)

8. Write down the exact value of $\tan 45^\circ$

........................

(1)

9. Write down the exact value of $\cos 90^\circ$

........................

(1)

10. Write down the exact value of $\sin 90^\circ$

........................

(1)
11. Write down the exact value of \( \sin 180^\circ \) 

\[ \]

(1)

12. Write down the exact value of \( \cos 360^\circ \) 

\[ \]

(1)

13. Write down the exact value of \( \sin 360^\circ \) 

\[ \]

(1)

14. Write down the exact value of \( \cos 270^\circ \) 

\[ \]

(1)

15. Write down the exact value of \( \tan 180^\circ \) 

\[ \]

(1)

16. Write down the exact value of \( \sin 270^\circ \) 

\[ \]

(1)

17. Write down the exact value of \( \cos 180^\circ \) 

\[ \]

(1)
18. Write down the exact value of Sin 60° ..........................  (1)

19. Write down the exact value of Cos 45° ..........................  (1)

20. Write down the exact value of Sin 45° ..........................  (1)

21. Write down the exact value of Tan 30° ..........................  (1)

22. Write down the exact value of Tan 60° ..........................  (1)

23. Write down the exact value of Cos 30° ..........................  (1)

24. Write down the exact value of Sin 120° ..........................  (1)
25. Write down the exact value of $\sin 150^\circ$

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(1)

26. Write down the exact value of $\cos 120^\circ$

........................

(1)

27. Write down the exact value of $\sin 210^\circ$

........................

(1)

28. Write down the exact value of $\tan 300^\circ$

........................

(1)

29. Write down the exact value of $\cos 540^\circ$

........................

(1)

30. Write down the exact value of $\cos 570^\circ$

........................

(1)

31. Write down the exact value of $\sin 870^\circ$

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(1)
32. Below is a right angled triangle.

Show that angle \( x = 30^\circ \)
Include all your working.

33. Below is a right angled triangle.

Show that angle \( x = 30^\circ \)
Include all your working.

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34. Find the exact value of $\sin(225^\circ) + \cos(150^\circ)$

35. Shown below is a right angled triangle.

![Diagram of a right angled triangle with a 30° angle.

Find the exact length of the side labelled $y$.}
36. Shown below is a triangle.

Find the exact length of the side labelled $x$.

$\text{..........................cm}$

(4)