



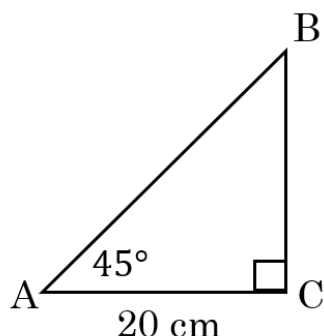
Exact Trigonometric Values Exam Practice

- Q1. Write down the exact value of $\sin(45^\circ)$.
(1 mark)
- Q2. Write down the exact value of $\cos(90^\circ)$.
(1 mark)
- Q3. Write down the exact value of $\tan(60^\circ)$.
(1 mark)
- Q4. Write down the exact value of $\sin(30^\circ)$.
(1 mark)
- Q5. Work out the exact value and simplify $8 \cos(60^\circ) - 2 \tan(45^\circ)$.
(2 marks)
- Q6. Work out the exact value and simplify $4 \cos(30^\circ) - \tan(60^\circ)$.
(2 marks)
- Q7. Work out the exact value and simplify $4 \cos(30^\circ) \tan(60^\circ)$.
(2 marks)
- Q8. (i) Find the value of $\cos(0^\circ) + \sin(0^\circ) + \tan(0^\circ)$.
(2 marks)
- (ii) State which of $\cos(90^\circ)$, $\tan(90^\circ)$ and $\sin(90^\circ)$ is undefined.
(1 mark)
- Q9. Work out the exact value and simplify $\frac{8 \sin(30^\circ) - 2 \tan(45^\circ)}{3 \tan(45^\circ)}$.
(2 marks)
- Q10. Work out the value of $(\cos(60^\circ) - 7 \tan(45^\circ)) \cos(90^\circ)$.
(2 marks)
- Q11. Work out the exact value and simplify $\frac{8 \tan(30^\circ) \cos(45^\circ)}{3 \tan(45^\circ) - 4 \sin(90^\circ)}$, giving your answer in the form $\frac{a\sqrt{b}}{c}$ where a, b and c are whole numbers.
(3 marks)
- Q12. Solve the equation, $\frac{\sin(30^\circ)x}{3 \tan(60^\circ)} + \sin(45^\circ) = \frac{8\sqrt{2}}{12}$.
(3 marks)



Applied Mixed Practice Problems

Q13. ABC is a right-angled triangle. Work out the exact length of side AB.



(2 marks)

Q14. a) Tom claims that, for any x , $\sin(x) + \cos(x) = 1$, whilst Ralph says that $\frac{\sin(x)}{\cos(x)} = \tan(x)$.

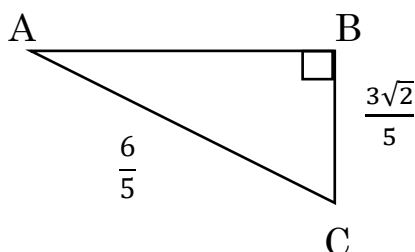
Taking $x = 30^\circ$, decide who is correct.

(3 marks)

b) Explain why choosing $x = 90^\circ$ would have not helped you to decide the answer to part (a).

(1 mark)

Q15. Work out the size of angle A in the right-angled triangle below:



(3 marks)

Q16. You are given that $\cos(A + B) = \cos(A)\cos(B) - \sin(A)\sin(B)$

Use this formula with $A = 60^\circ$ and $B = 15^\circ$ to find an exact value for $\cos(75^\circ)$

(3 marks)

Q17. At a fairground game, a spinner has the angles, 0, 30, 45, 60 and 90 marked on it. There is also a bag containing 3 balls marked sin, cos and tan. John spins the wheel once. He then chooses a bag from the ball, and applies that function to the result from spinning the wheel. He wins a prize if he obtains a surd. What is the probability he wins a prize?

(3 marks)