

10.7 Trigonometric identities**HSG.SRT.C.8**

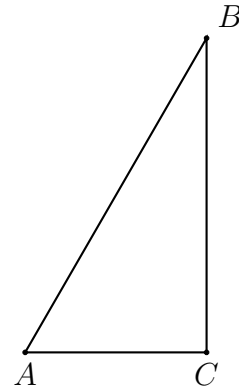
1. Given right $\triangle ABC$ with $AC = 5$, $BC = 5\sqrt{3}$, $AB = 10$, $m\angle C = 90^\circ$. Express each trig ratio as a fraction, then as a decimal to the nearest thousandth.

(a) $\sin A =$

(b) $\cos A =$

(c) $\sin B =$

(d) $m\angle A =$



2. Right triangle $\triangle ABC$ is shown with base $AC = 6$ and hypotenuse $AB = 10$ as marked.

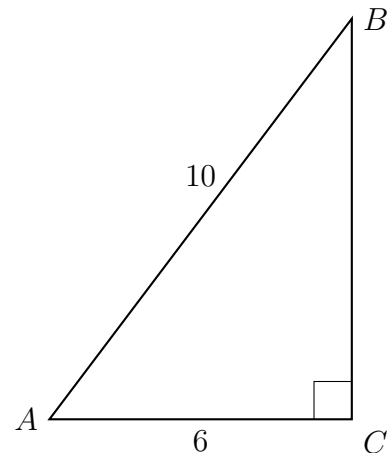
(a) Write down $\cos A$.

(b) Find the length of side BC .

(c) Write down $\tan A$.

(d) Write down $\sin A$.

(e) Find the angle measures of $\angle A$ and $\angle B$.



3. Are the lines parallel, perpendicular, or neither? Justify your answer.
(you must use the values of the slopes in your justification)

$y = 4x + 1$

$y = \frac{1}{4}x - 4$

4. Given $P(4, 7)$ and $Q(5, 0)$, find the length of \overline{PQ} , expressed as a simplified radical.

Use: $l = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

5. A translation $T_{x,y}$ maps $A(-1, 12) \rightarrow A'(5, -2)$.

(a) Write down the translation.

(b) Apply the same translation to $B(-3, 8)$.

6. In the diagram below, \overline{PQ} has endpoints with coordinates $P(-2, 5)$ and $Q(4, -1)$. Find the equation of the perpendicular bisector of \overline{PQ} and plot it on the grid.

