

Second set of Homework

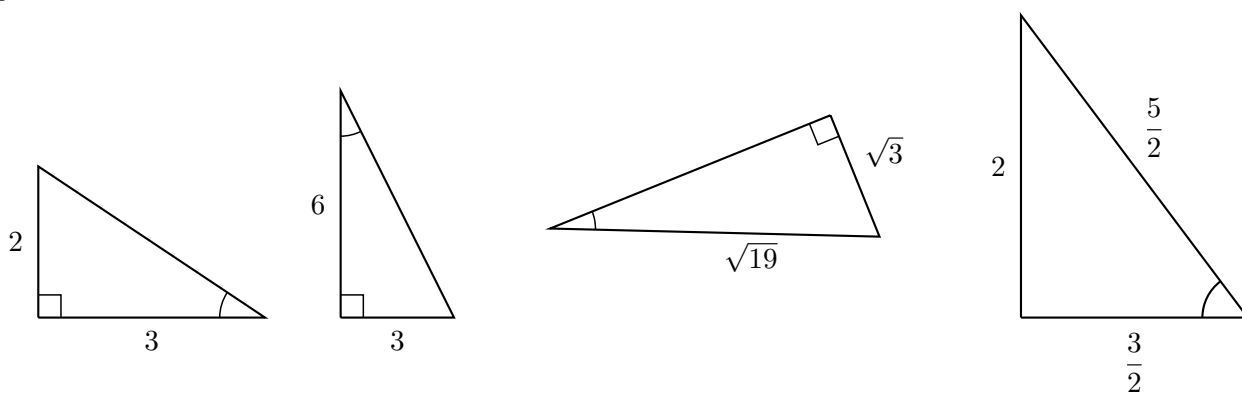
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Please note: You should fully justify your answers.

1 Trigonometric ratios

For the following questions you should give **exact answers**. Also you should **not** use your calculator.

1. For each of the following triangles find the sine, the cosine and the tangent of the indicated angle.



2. In the triangle ABC we have, $A = 90^\circ$, $a = 7$ and $b = 3$. Find $\cos B$ and $\tan C$.
3. In the triangle PQR we have $Q = 90^\circ$, $p = \sqrt{5}$, $r = \sqrt{7}$. Find $\tan P$, $\sin P$ and $\cos P$.
4. In the triangle ABC we have $A = 60^\circ$, $B = 90^\circ$, $c = 2$. Find a and b .
5. The hypotenuse of a right triangle with an angle of 45° is $4\sqrt{2}$. What are the lengths of the legs?
6. In the triangle ABC we have $A = 90^\circ$, $b = 5$, and $a = 10$. Find the measures of the two acute angles.
7. The legs of a right triangle have equal lengths. How many degrees is one acute angle in that triangle?
8. Given that the marked acute angle is 67.5° and that $\sin 22.5^\circ = \frac{\sqrt{2 - \sqrt{2}}}{2}$ find x .

