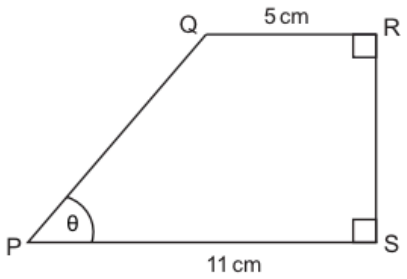
16 The diagram shows a quadrilateral PQRS.



[not to scale]

Given that $\tan\theta = \frac{4}{3}$, what is the area of the quadrilateral PQRS?

A $34\,\text{cm}^2$

B $36\,\text{cm}^2$

C $64\,\text{cm}^2$

D $88\,\text{cm}^2$

E $112\,\text{cm}^2$

2016

8 PQR is an isosceles triangle in which $PQ = PR = 6\,\text{cm}$ and $QR = 8\,\text{cm}$.

What is the value of the tangent of angle PQR?

A $\frac{2}{\sqrt{13}}$

B $\frac{2}{\sqrt{5}}$

C $\frac{2}{3}$

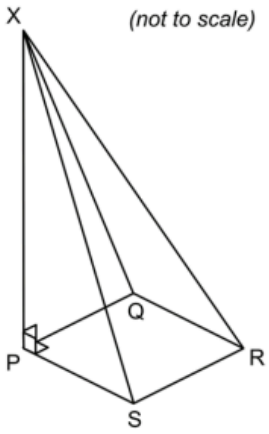
D $\frac{3}{2}$

E $\frac{\sqrt{5}}{2}$

F $\frac{\sqrt{13}}{2}$

2015

20 The diagram shows part of a glass structure. PQRS is a horizontal square with sides of 1 metre, and point X is 4 metres vertically above P.



What is the cosine of the angle that XR makes with the horizontal?

A $\frac{1}{3}$

B $\frac{\sqrt{2}}{4}$

C $\frac{\sqrt{2}}{2\sqrt{3}}$

D $\frac{4}{3\sqrt{2}}$

E $\frac{2}{\sqrt{3}}$

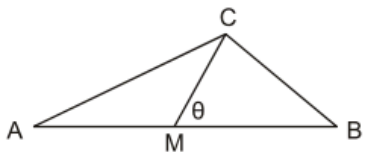
F $\frac{1}{\sqrt{17}}$

G $\frac{1}{17}$

2014

16 In the triangle ABC shown below (not to scale):

$tan\,A = \frac{1}{6}$ and $tan\,B = \frac{2}{3}$



M is the midpoint of AB.

What is the value of $tan\,\theta$

A $\frac{1}{9}$

B $\frac{5}{12}$

C $\frac{4}{9}$

D $\frac{1}{2}$

E $\frac{5}{6}$

2012