

August 24th

In the triangle DEF, $DE = 9\text{cm}$, $DF = 40\text{cm}$ and $EF = 41\text{cm}$.

Find the area of the circumcircle of this triangle.

This problem is considerably easier if you realise that the triangle DEF is right angled, since $9^2 + 40^2 = 41^2$

This means that the hypotenuse EF is the diameter of the circumcircle.

Therefore the radius of the circle is $41 \div 2 = 20.5$

Therefore, area = $\pi \times 20.5^2 = \mathbf{420.25\pi \text{ cm}^2}$