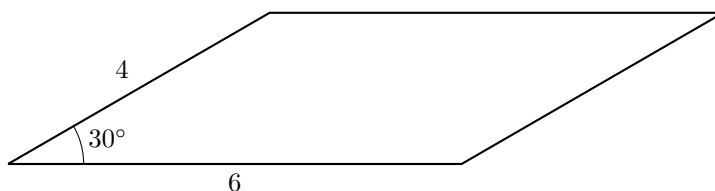


Math 1316: 1-25 Worksheet

January 25, 2022

1. A right triangle with angle α has legs of length 3 and 5. Find all six trig functions of α .
2. A right triangle with angle 20° has a hypotenuse of length 7. Find the lengths of both other sides of the triangle, and use those to determine its area.
3. A parallelogram has sides of length 4 and 6, meeting an angle of 30° , as in the below picture. Determine the area of the parallelogram. [Hint: remember that the area of a parallelogram is its width multiplied by its height.]



4. Consider two angles α and β , which are each between 0° and 90° and where $\alpha + \beta = 90^\circ$. Explain why the following six equalities are true:

$$\sin \alpha = \cos \beta$$

$$\cos \alpha = \sin \beta$$

$$\tan \alpha = \cot \beta$$

$$\cot \alpha = \tan \beta$$

$$\sec \alpha = \csc \beta$$

$$\csc \alpha = \sec \beta$$