GRADE 11 ESSENTIAL
TRIGONOMETRY AND EUCLIDIAN GEOMETRY

Name: _____

Date: _____

Have an Ice Day!

1 What do you call identical twin sisters when both are ice skating champions?

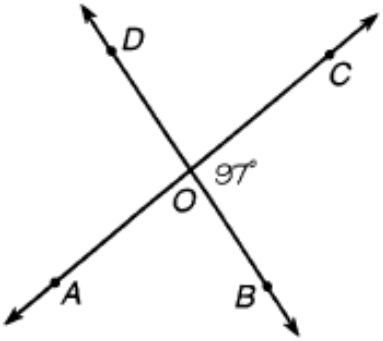
141°	48°	42°	44°	33°	129°	42°	42°	26°	69°	48°	72°	83°	26°	42°	70°

2 What unfortunate mistake did the champion ice skater make with his gold medal?

57°	42°	136°	57°	135°	46°	122°	141°	97°	28°	62°	147°	83°	26°	39°	42°	46°

Use the given angle measures to find the angle measures indicated for each figure. Each time your answer appears in the code, write the letter of the exercise above it.

Use the ancient geometric rules about: **a)** opposite (vertical) angles; **b)** triangle sum theorem; **c)** supplementary (linear pair) angles.

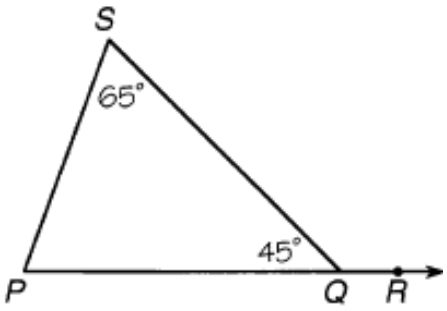


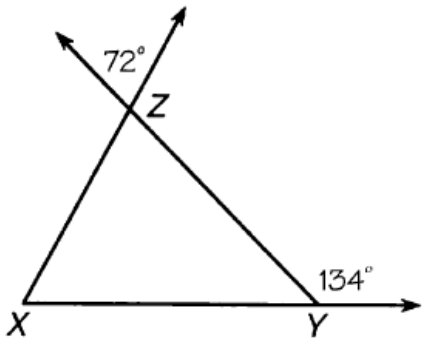
T $m\angle AOD =$

O $m\angle AOB =$

A $m\angle SQR =$

S $m\angle P =$





L $m\angle XZY =$

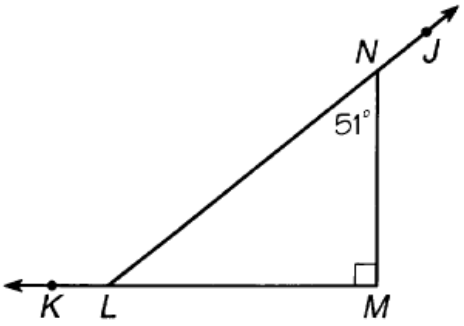
D $m\angle ZYX =$

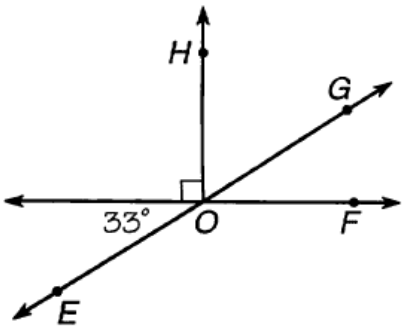
B $m\angle X =$

U $m\angle JNM =$

Z $m\angle NLM =$

I $m\angle NLK =$

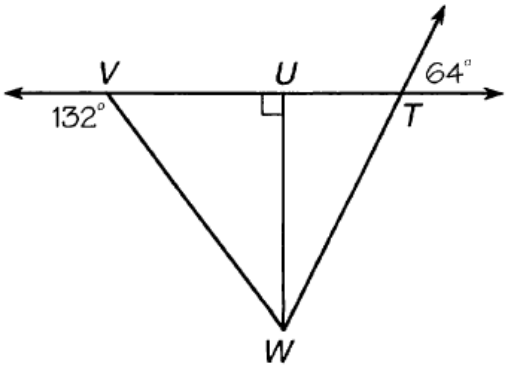




G $m\angle FOG =$

H $m\angle GOH =$

R $m\angle EOF =$

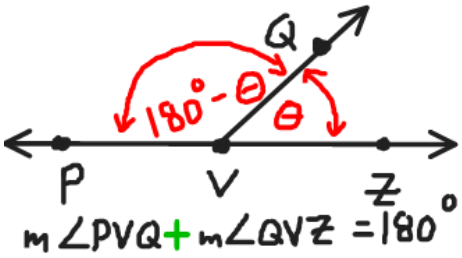


C $m\angle UVW =$

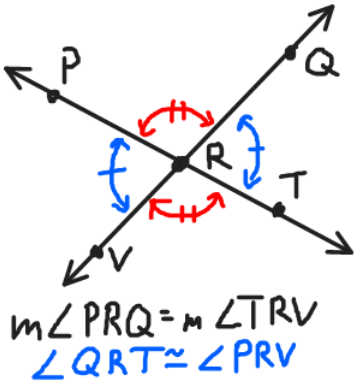
E $m\angle VWU =$

N $m\angle UWT =$

Angles that form a linear pair are supplementary and add up to 180°

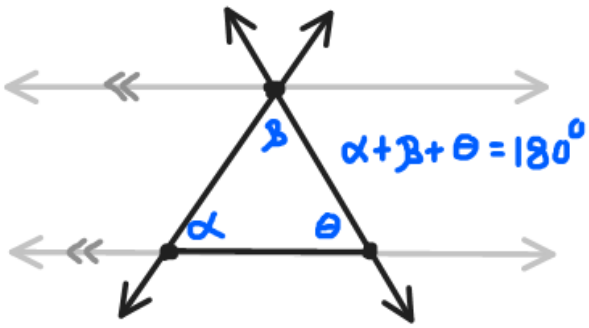


Opposite (or vertical angles) formed by two intersecting lines are congruent



Triangle Sum Theorem. The sum of the interior angles of any triangle adds up to 180°.

Evident from rules of parallel lines and transversals



Of course you have the other 'rules' (theorems, postulates, corrolaries) regarding parallel lines, transversals, corresponding angles, etc.

And in **Grade 9** you would have done **circle geometry**! Opposite angles of a cyclic quadrilateral are supplementary; inscribed angles that share the same intercepted arc as a central angle are half the measure; triangles inscribed in a semi-circle are right triangles, etc, ….so wonderful….

Ancient Geometry is wonderful especially when you use the rules to make triangles