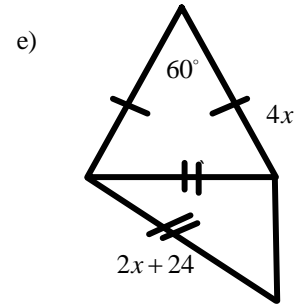
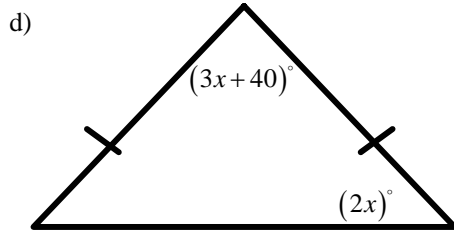
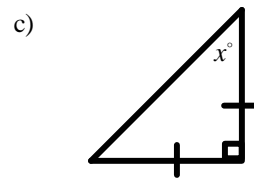
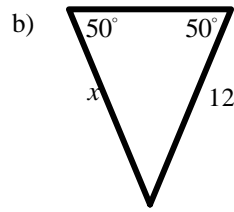
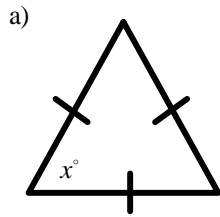


# Isosceles Triangles

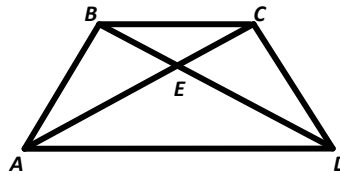
1. Find the value of  $x$ .



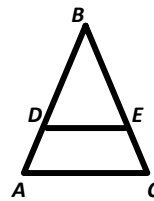
2. In  $\triangle ABC$ ,  $\overline{AB} \cong \overline{BC}$ ,  $m\angle A$  is 10 more than twice a number and  $m\angle C$  is four less than three times the same number. Find  $m\angle B$ .

3. Write a two-column proof for each.

a) Given:  $\angle ABD \cong \angle DCA$   
 $\overline{BA} \cong \overline{CD}$   
 Prove:  $\angle BCA \cong \angle CBD$



b) Given:  $\triangle ABC$  is an isosceles triangle and  $\angle B$  is the vertex  
 $\overline{DE} \parallel \overline{AC}$   
 Prove:  $\triangle DBE$  is an isosceles triangle



c) Given:  $\triangle ABC$  is an isosceles triangle and  $\overline{AC}$  is the base  
 $\overline{DC}$  bisects  $\angle BCA$   
 $\overline{DA}$  bisects  $\angle BAC$   
 Prove:  $\triangle ADC$  is an isosceles triangle

