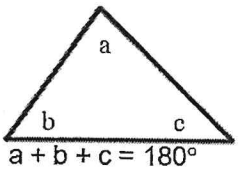
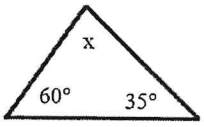
Angle Sum of a Triangle Theorem (ASTT)

The three interior angles of a triangle add up to 180°



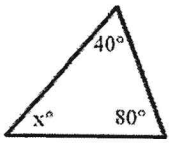
a + b + c = 180°



x = 180 – 60 – 35
x = 85° (ASTT)

Your Turn: Find the missing angles using the angle sum of a triangle theorem.

1.



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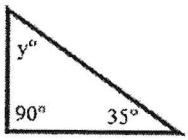

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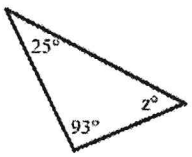
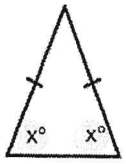
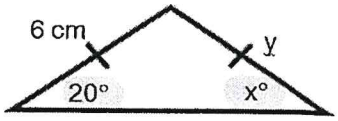


Isosceles Triangle Theorem (ITT)

- Isosceles triangles have ***two sides*** and ***two angles*** which are ***equal.***
- The equal angles occur where the equal sides meet the third side

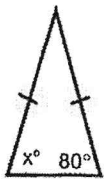




x = 20° (ITT)
y = 6 cm (ITT)

Your Turn: Find the missing angles or sides using the isosceles triangle theorem.

4.



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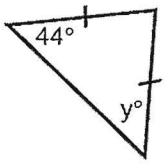

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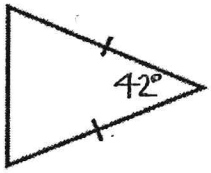
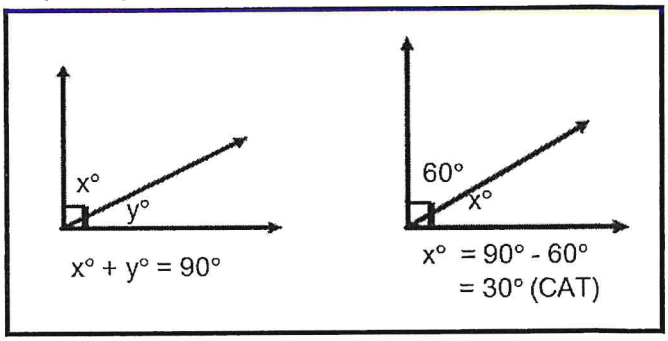


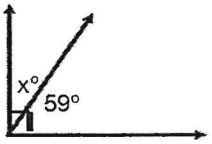
Complementary Angle Theorem (CAT)

Complementary angles are two or more joined angles that ***add up to 90°***



Your Turn: Find the missing angles using the complementary angle theorem.

7.



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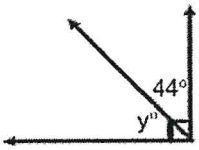

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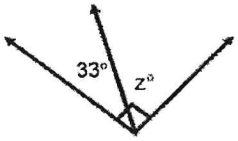
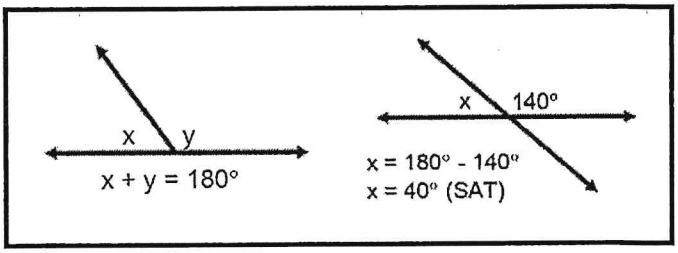


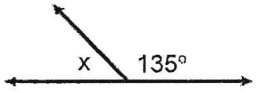
Supplementary Angle Theorem (SAT)

Supplementary angles are two or more joined angles that ***add up to 180°***.



Your Turn: Find the missing angles using the supplementary angle theorem.

10.



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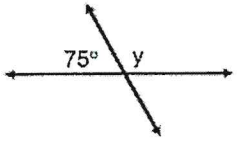

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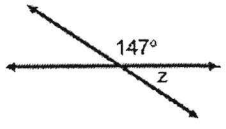
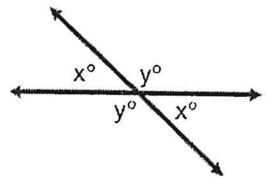
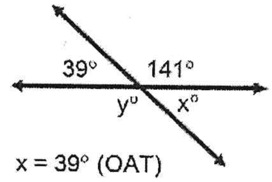


Opposite Angle Theorem (OAT)

Opposite angles are ***equal angles*** that are ***across*** from each other when two lines intersect.

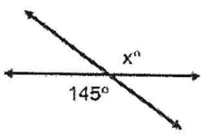




x = 39° (OAT)
y = 141° (OAT)

Your Turn: Find the missing angles using the opposite angle theorem.

13.



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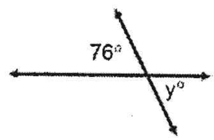

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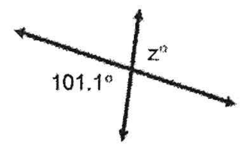
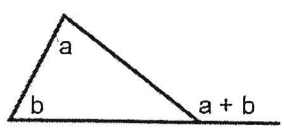
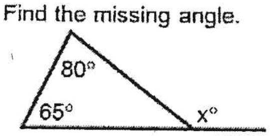


Exterior Angle Theorem (EAT)

Exterior angles in a triangle are equal to the ***sum of the two opposite interior angles*** in the triangle.



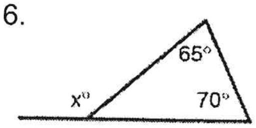
Find the missing angle.



x = 80 + 65
x = 145° (EAT)

Your Turn: Find the missing angles using the exterior angles theorem.

16.



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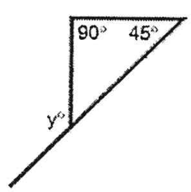

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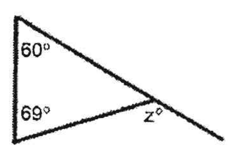
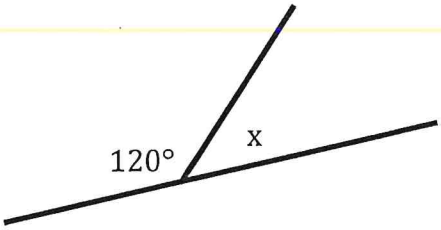
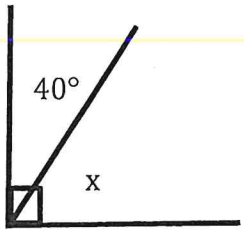
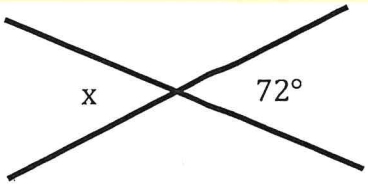
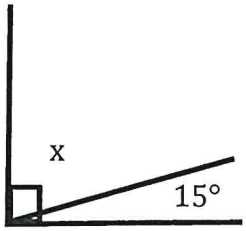


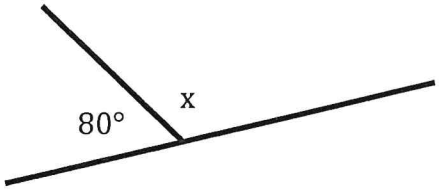
Practice – Angles, Triangles, Quadrilaterials | MFM1P

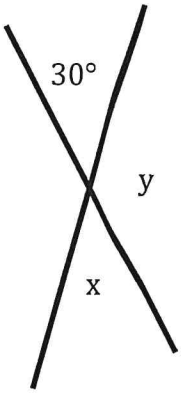


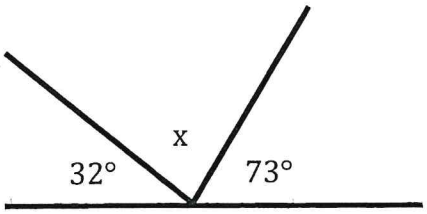


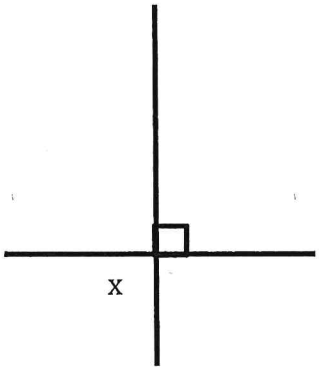


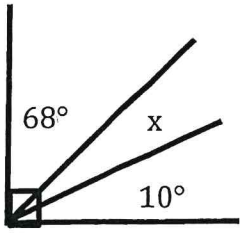


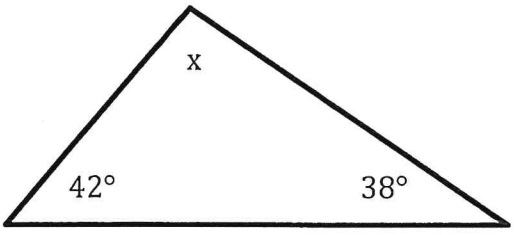


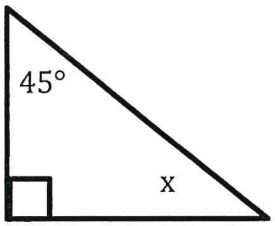


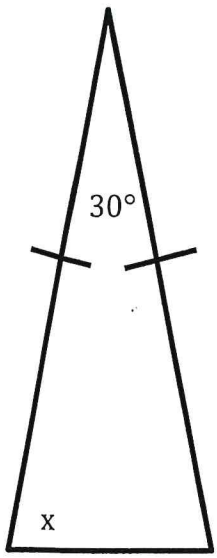


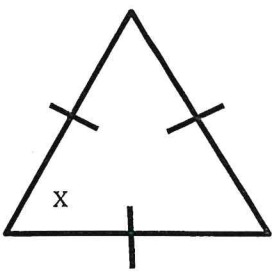


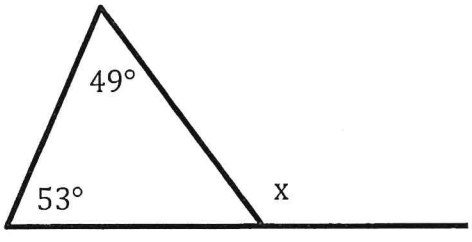


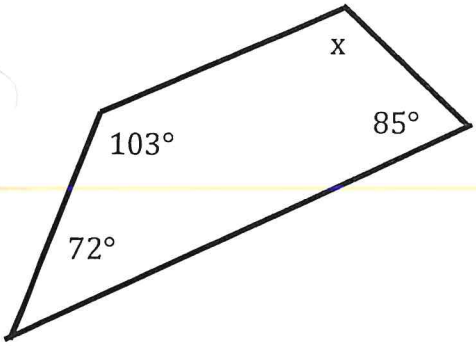


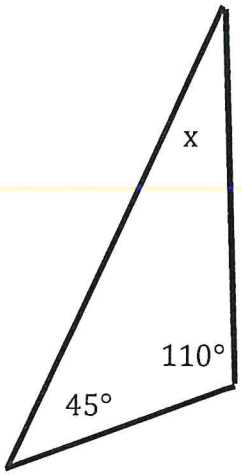


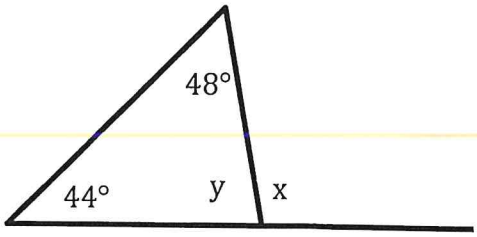


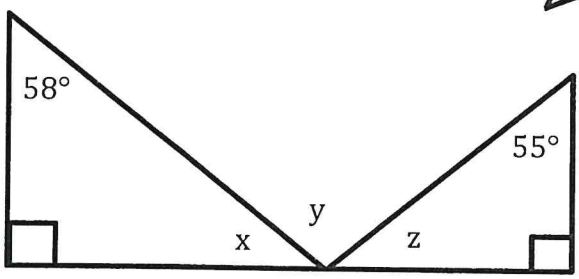


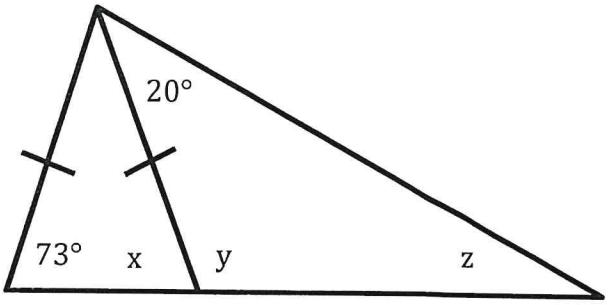


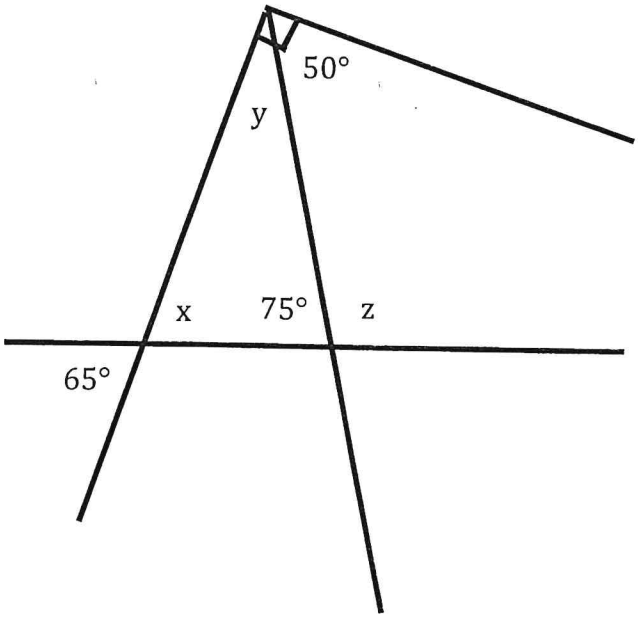

x
103°
85°
72°

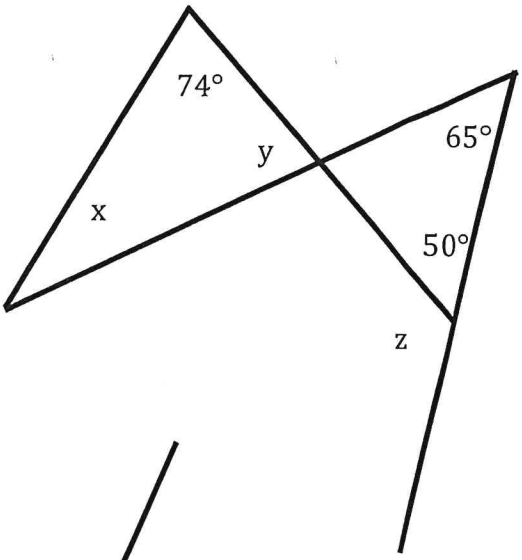

x
110°
45°

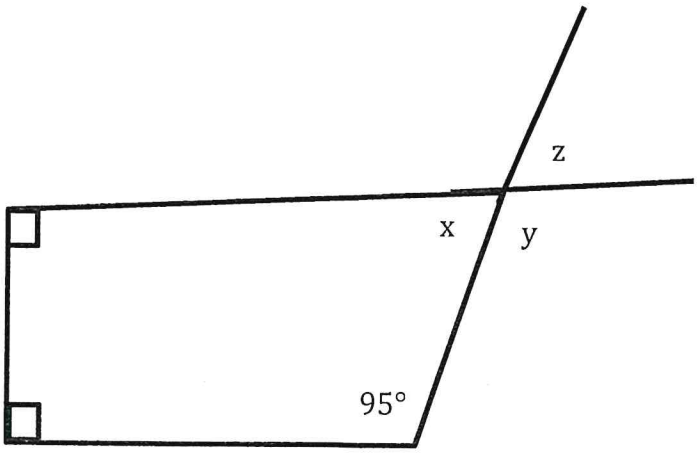

48°
44°
y
x


58°
55°
y
x
z


20°
73°
x
y
z


50°
y
x
75°
z
65°


74°
y
65°
x
50°
z


z
x
y
95°