

Practice 10-2, Mixed Exercises

1. $\angle AXB \cong \angle RXQ$ because vertical angles are \cong .
 $\angle A \cong \angle R$ (Given). Therefore $\triangle AXB \sim \triangle RXQ$ by the AA \sim Postulate. 2. Since $\frac{MP}{LW} = \frac{PX}{WA} = \frac{XM}{AL} = \frac{3}{4}$, $\triangle MPX \sim \triangle LWA$ by the SSS \sim Theorem. 3. $\angle QMP \cong \angle AMB$ because vertical \angle s are \cong . Then, since $\frac{QM}{AM} = \frac{PM}{BM} = \frac{2}{1}$, $\triangle QMP \sim \triangle AMB$ by the SAS \sim Theorem. 4. $\angle M \cong \angle A$ (Given). And, since there are 180° in a triangle, $m\angle J = 130$, and $\angle J \cong \angle C$. So, $\triangle MJN \sim \triangle ACB$ by the AA \sim Postulate. 5. Since $AX = BX$ and $CX = RX$, $\frac{AX}{CX} = \frac{BX}{RX}$. And $\angle AXB \cong \angle CXB$ because vertical angles are \cong . Therefore $\triangle AXB \sim \triangle CXR$ by the SAS \sim Theorem. 6. Since $AB = BC = CA$ and $XY = YZ = ZX$, $\frac{AB}{XY} = \frac{BC}{YZ} = \frac{CA}{ZY}$. Then $\triangle ABC \sim \triangle XYZ$ by the SSS \sim Theorem. 7. $\frac{15}{2}$ 8. $\frac{55}{4}$ 9. $\frac{48}{7}$ 10. $\frac{85}{3}$ 11. $\frac{20}{3}$ 12. 36

11. Since $\frac{QR}{MN} = \frac{RM}{NP} = \frac{MQ}{PM} = \frac{1}{2}$, $\triangle QRM \sim \triangle MNP$ by the SSS \sim Theorem; $x = 90$. 12. Since $\frac{AB}{XY} = \frac{BC}{YZ} = \frac{3}{2}$ and $\angle B \cong \angle Y$ (Given), $\triangle ABC \sim \triangle XYZ$ by the SAS \sim Theorem; $x = \frac{10}{3}$.