p. 163 #1-4

1. a) $\sin 25° \neq \sin 65°$
angles don't add to be 180°

b) $\cos 70° = -\cos 110°$
angles add to 180° so they are opposite values

c) $\tan 46° \neq \tan 134°$
angles add to 180° so number are the same but opposite sign's

d) $\sin 122° = \sin 58°$
angles add to be 180°

e) $\cos 135° \neq \cos 45°$
angles add to 180° but signs are opposite

f) $\tan 175° = -\tan 5°$
angles add to 180° and signs are opposite

2. a) $\sin 15° = 0.2588$
$\sin 15° = \sin 165°$

b) $\cos 62° = 0.4695$
$\cos 62° = \cos 118°$

c) $\tan 35° = 0.7002$
$\tan 35° = \tan 145°$

d) $\sin 170° = 0.1736$
$\sin 170° = \sin 10°$

3. a) $\sin\theta = 0.64$
$\theta = 40°$
$\theta_1 = 140°$

use $\sin^{-1}$

b) $\sin\theta = \frac{1}{3}$
$\theta = 19°$
$\theta_1 = 161°$

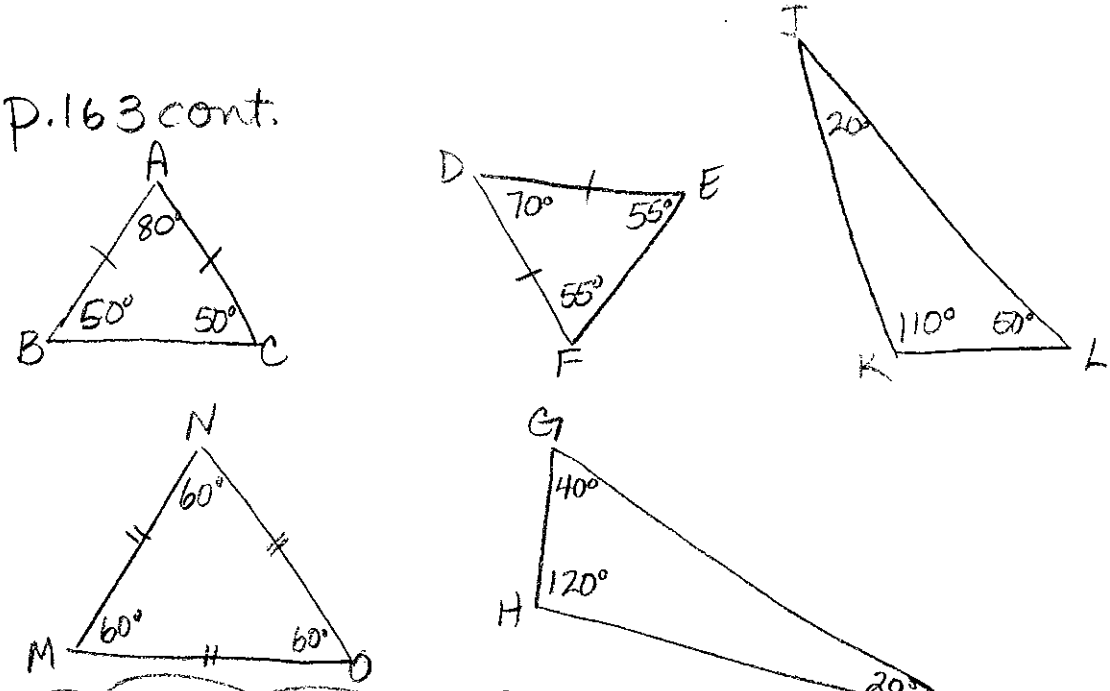
c) $\sin\theta = 0.95$
$\theta = 72°$
$\theta_1 = 108°$

d) $\sin\theta = \frac{7}{23}$
$\theta = 18°$
$\theta_1 = 162°$

Remember
If two angles are supplementary (add to 180°)
- their sines are identical
- their cosines are opposites
- their tangents are opposites

* opposite numbers have the same digits but opposite signs eg. 0.1345 and −0.1345

4. p.163 cont.



Find the size of all angles

a) same angles
$\angle B = \angle C = \angle L$
$\angle E = \angle F$
$\angle J = \angle I$
$\angle M = \angle N = \angle O$

supplementary angles for sine
$\angle M$, $\angle N$ or $\angle O$ and $\angle H$
$\angle D$ and $\angle K$

b) The cosine and tangent ratios for these angles will be opposites.