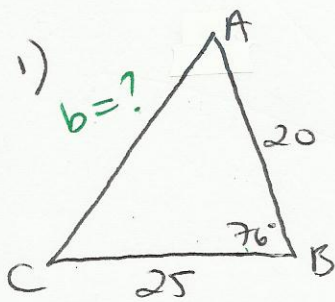


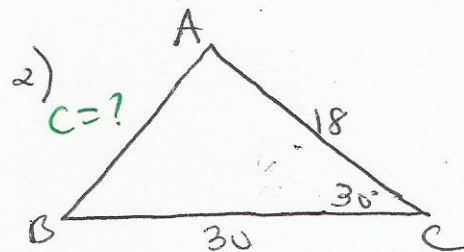
# Adv. Functions - Law of Cosines w/



$$b^2 = 25^2 + 20^2 - 2(25)(20)\cos 76$$

$$\sqrt{b^2} = \sqrt{783.0781044}$$

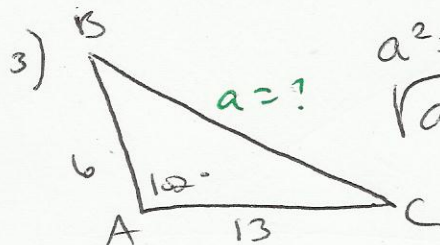
$$\boxed{b = 28}$$



$$c^2 = 30^2 + 18^2 - 2(30)(18)\cos 30$$

$$\sqrt{c^2} = \sqrt{288.6925639}$$

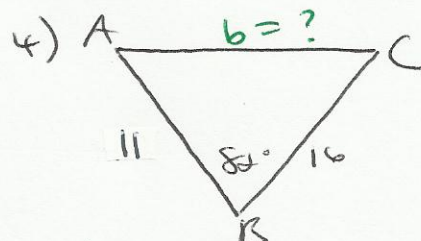
$$\boxed{c = 17}$$



$$a^2 = 13^2 + 6^2 - 2(13)(6)\cos 102$$

$$\sqrt{a^2} = \sqrt{237.4342238}$$

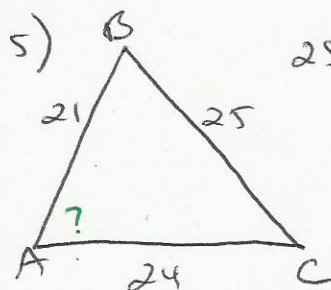
$$\boxed{a = 15.4}$$



$$b^2 = 11^2 + 16^2 - 2(11)(16)\cos 82$$

$$\sqrt{b^2} = \sqrt{328.0110645}$$

$$\boxed{b = 18.1}$$



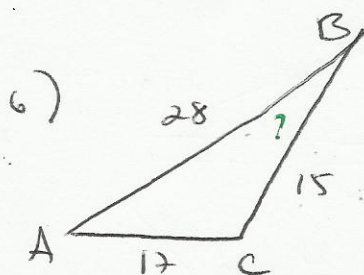
$$25^2 = 21^2 + 24^2 - 2(21)(24)\cos A$$

$$625 = 1017 - 1008\cos A$$

$$\frac{-392}{-1008} = \frac{-1008\cos A}{-1008}$$

$$A = \cos^{-1}\left(\frac{-392}{-1008}\right)$$

$$\boxed{A = 67.1^\circ}$$



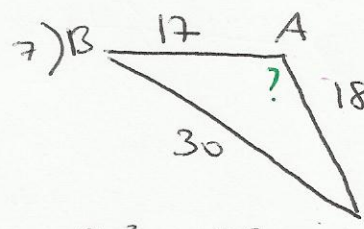
$$17^2 = 15^2 + 28^2 - 2(15)(28)\cos B$$

$$289 = 1009 - 840\cos B$$

$$\frac{-720}{-840} = \frac{-840\cos B}{-840}$$

$$B = \cos^{-1}\left(\frac{-720}{-840}\right)$$

$$\boxed{B = 31^\circ}$$



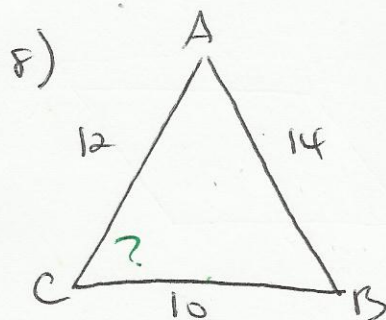
$$30^2 = 17^2 + 18^2 - 2(17)(18)\cos A$$

$$900 = 613 - 612\cos A$$

$$\frac{287}{-612} = \frac{-612\cos A}{-612}$$

$$A = \cos^{-1}\left(\frac{287}{-612}\right)$$

$$\boxed{A = 118^\circ}$$



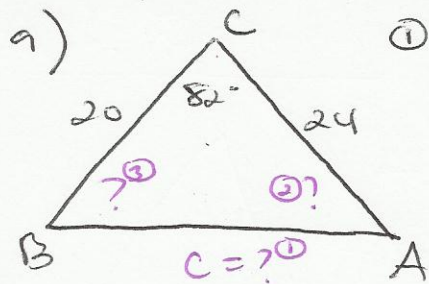
$$14^2 = 12^2 + 10^2 - 2(12)(10)\cos C$$

$$196 = 244 - 240\cos C$$

$$\frac{-48}{-240} = \frac{-240\cos C}{-240}$$

$$C = \cos^{-1}\left(\frac{-48}{-240}\right)$$

$$\boxed{C = 78.5^\circ}$$



$$\textcircled{1} c^2 = 20^2 + 24^2 - 2(20)(24)\cos 82$$

$$\sqrt{c^2} = \sqrt{842.3938231}$$

$$\boxed{C = 29}$$

$$\textcircled{2} B = 180 - 82 - 43.1$$

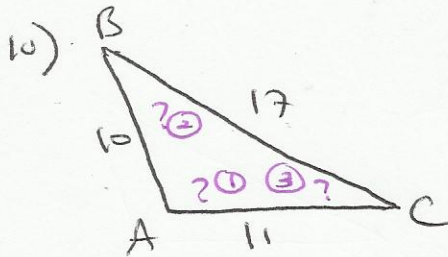
$$\boxed{B = 54.9^\circ}$$

$$\textcircled{2} \frac{29}{\sin 82} = \frac{20}{\sin A}$$

$$\frac{29 \sin A}{29} = \frac{20 \sin 82}{29}$$

$$A = \sin^{-1} \left( \frac{20 \sin 82}{29} \right)$$

$$\boxed{A = 43.1^\circ}$$



$$\textcircled{1} 17^2 = 10^2 + 11^2 - 2(10)(11)\cos A$$

$$289 = 221 - 220 \cos A$$

$$\frac{68}{220} = \frac{-220 \cos A}{220}$$

$$A = \cos^{-1} \left( \frac{68}{220} \right)$$

$$\boxed{A = 108^\circ}$$

$$\textcircled{2} \frac{17}{\sin 108} = \frac{11}{\sin B}$$

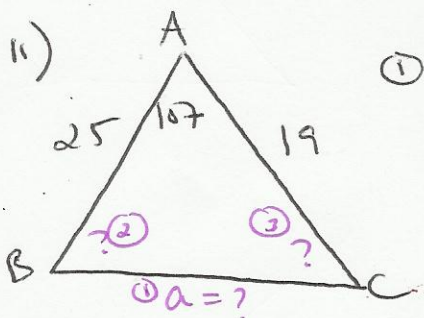
$$\frac{17 \sin B}{17} = \frac{11 \sin 108}{17}$$

$$B = \sin^{-1} \left( \frac{11 \sin 108}{17} \right)$$

$$\boxed{B = 38^\circ}$$

$$\textcircled{3} C = 180 - 108 - 38$$

$$\boxed{C = 34^\circ}$$



$$\textcircled{1} a^2 = 19^2 + 25^2 - 2(19)(25)\cos 107$$

$$\sqrt{a^2} = \sqrt{1263.753119}$$

$$\boxed{a = 35.5}$$

$$\textcircled{3} C = 180 - 107 - 30.8$$

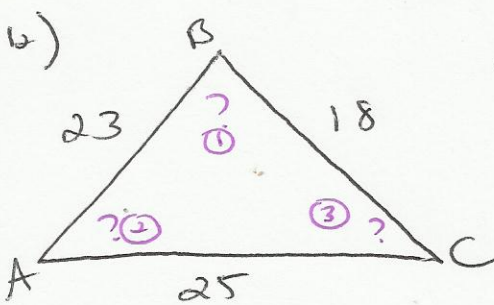
$$\boxed{C = 42.2^\circ}$$

$$\textcircled{2} \frac{35.5}{\sin 107} = \frac{19}{\sin B}$$

$$\frac{35.5 \sin B}{35.5} = \frac{19 \sin 107}{35.5}$$

$$B = \sin^{-1} \left( \frac{19 \sin 107}{35.5} \right)$$

$$\boxed{B = 30.8^\circ}$$



$$25^2 = 23^2 + 18^2 - 2(23)(18)\cos B$$

$$625 = 853 - 828 \cos B$$

$$\frac{-228}{-828} = \frac{-828 \cos B}{-828}$$

$$B = \cos^{-1} \left( \frac{-228}{-828} \right)$$

$$\boxed{B = 74^\circ}$$

$$\frac{25}{\sin 74} = \frac{18}{\sin A}$$

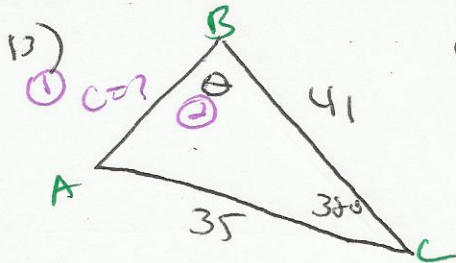
$$\frac{25 \sin A}{25} = \frac{18 \sin 74}{25}$$

$$A = \sin^{-1} \left( \frac{18 \sin 74}{25} \right)$$

$$\boxed{A = 43.8^\circ}$$

$$C = 180 - 74 - 43.8$$

$$\boxed{C = 62.2^\circ}$$



$$① C^2 = 35^2 + 41^2 - 2(35)(41)\cos 38$$

$$\sqrt{C^2} = \sqrt{644.4091371}$$

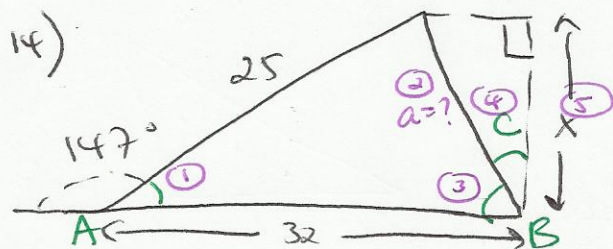
$$C = 25.4$$

$$② \frac{25.4}{\sin 38} = \frac{35}{\sin \theta}$$

$$\frac{25.4 \sin \theta}{25.4} = \frac{35 \sin 38}{25.4}$$

$$\theta = \sin^{-1} \left( \frac{35 \sin 38}{25.4} \right)$$

$$\boxed{\theta = 58^\circ}$$



$$① A = 180 - 147$$

$$A = 33^\circ$$

$$② a^2 = 25^2 + 32^2 - 2(25)(32)\cos 33$$

$$\sqrt{a^2} = \sqrt{307.1270913}$$

$$a = 17.5$$

$$③ \frac{17.5}{\sin 33} = \frac{25}{\sin B}$$

$$\frac{17.5 \sin B}{17.5} = \frac{25 \sin 33}{17.5}$$

$$B = 51.1^\circ$$

$$④ C = 90 - 51.1$$

$$C = 38.9^\circ$$

$$⑤ \cos 38.9 = \frac{x}{17.5}$$

$$x = 17.5 \cos 38.9$$

$$\boxed{x = 13.6}$$



$$① 26^2 = 18^2 + 16^2 - 2(18)(16)\cos A$$

$$676 = 580 - 576 \cos A$$

$$96 = -576 \cos A$$

$$A = \cos^{-1} \left( \frac{96}{-576} \right)$$

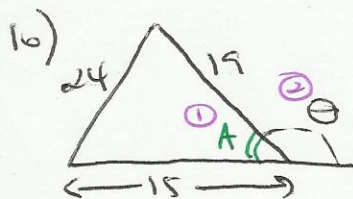
$$A = 99.6^\circ$$

$$② B = 180 - 99.6$$

$$B = 80.4^\circ$$

$$③ \theta = 90 - 80.4$$

$$\boxed{\theta = 9.6^\circ}$$



$$① 24^2 = 15^2 + 19^2 - 2(15)(19)\cos A$$

$$576 = 586 - 570 \cos A$$

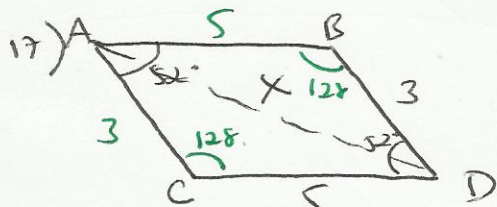
$$-10 = -570 \cos A$$

$$A = \cos^{-1} \left( \frac{-10}{-570} \right)$$

$$A = 89^\circ$$

$$② \theta = 180 - 89$$

$$\boxed{\theta = 91^\circ}$$



$$B + C = 360 - 52 - 52$$

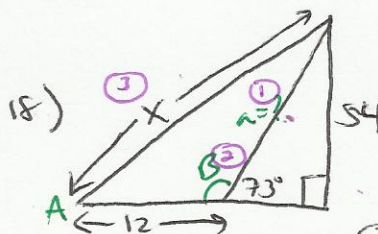
$$B + C = \frac{256}{2}$$

$$B = C = 128^\circ$$

$$x^2 = 3^2 + 5^2 - 2(3)(5)\cos 128$$

$$\sqrt{x^2} = \sqrt{52.46984426}$$

$$\boxed{x = 7.2}$$



$$① \sin 73 = \frac{54}{a}$$

$$a = \frac{54}{\sin 73}$$

$$a = 56.5$$

$$② B = 180 - 73$$

$$B = 107^\circ$$

$$③ x^2 = 12^2 + 56.5^2 - 2(12)(56.5)\cos 107$$

$$\sqrt{x^2} = \sqrt{3732.706032}$$

$$\boxed{x = 61.1}$$