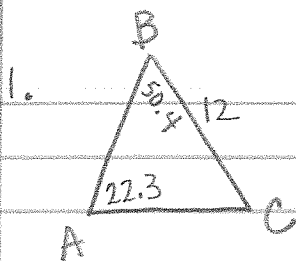


Review: Section 4.7 and Chapter 8



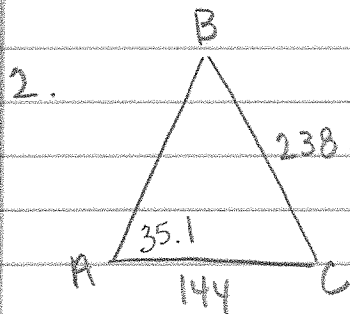
$$\frac{\sin 22.3}{12} = \frac{\sin 50.4}{b}$$

$$b = 24.367$$

$$C = 107.3^\circ$$

$$\frac{\sin 107.3}{c} = \frac{\sin 22.3}{12}$$

$$c = 30.194$$



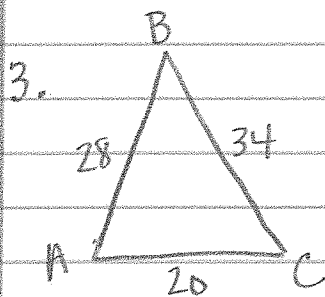
$$\frac{\sin 35.1}{238} = \frac{\sin B}{144}$$

$$B = 20.359^\circ$$

$$C = 124.541^\circ$$

$$\frac{\sin 35.1}{238} = \frac{\sin 124.541}{c}$$

$$c = 340.946$$



$$34^2 = 20^2 + 28^2 - 2(20)(28)\cos A$$

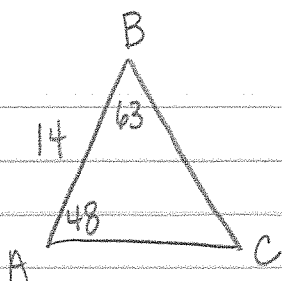
$$A = 88.567^\circ$$

$$20^2 = 28^2 + 34^2 - 2(28)(34)\cos B$$

$$B = 36.019^\circ$$

$$C = 55.414^\circ$$

4.



$$\boxed{C = 69^\circ}$$

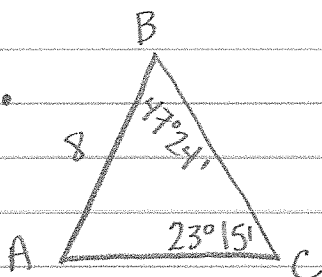
$$\frac{\sin 69}{14} = \frac{\sin 48}{a}$$

$$\boxed{a = 11.144}$$

$$\frac{\sin 69}{14} = \frac{\sin 63}{b}$$

$$\boxed{b = 13.362}$$

5.



$$\frac{\sin 23^\circ 15'}{8} = \frac{\sin 47^\circ 24'}{b}$$

$$b = 14.918$$

$$A = 109.35$$

$$K = \frac{1}{2}(14.918)(8)\sin 109.35^\circ$$

$$\boxed{K = 56.301 \text{ units}^2}$$

$$6. \quad s = \frac{29.7 + 21.5 + 19.6}{2} = 35.4$$

$$\text{area} = \sqrt{35.4(35.4 - 29.7)(35.4 - 21.5)(35.4 - 19.6)}$$

$$\boxed{\text{area} = 210.511 \text{ units}^2}$$

$$7. \quad \langle 5+1, 4-3 \rangle = \boxed{\langle 6, 1 \rangle}$$

$$8. \quad \langle 6+8, 1+4 \rangle = \boxed{\langle 14, 5 \rangle}$$

$$9. \quad 2\langle -2, -3 \rangle - \langle 4, 0 \rangle$$


$$\langle -4, -6 \rangle - \langle 4, 0 \rangle = \boxed{\langle -8, -6 \rangle}$$

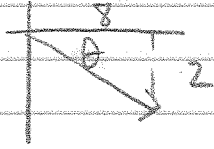
$$10. \quad 2\langle 4, 0 \rangle + \langle -4, 2 \rangle - 3\langle -2, -3 \rangle$$

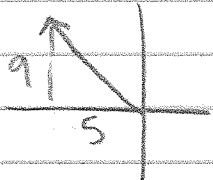
$$\langle 8, 0 \rangle + \langle -4, 2 \rangle - \langle -6, -9 \rangle = \boxed{\langle 10, 11 \rangle}$$

11. $\langle 6 \cos 240^\circ, 6 \sin 240^\circ \rangle$
 $\langle 6(-1/2), 6(-\sqrt{3}/2) \rangle = \boxed{\langle -3, -3\sqrt{3} \rangle}$

12. $\langle 4 \cos 135^\circ, 4 \sin 135^\circ \rangle$
 $\langle 4(-\sqrt{2}/2), 4(\sqrt{2}/2) \rangle = \boxed{\langle -2\sqrt{2}, 2\sqrt{2} \rangle}$

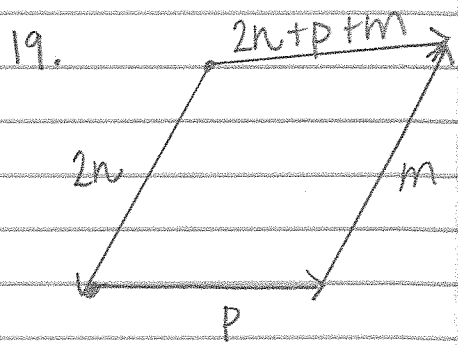
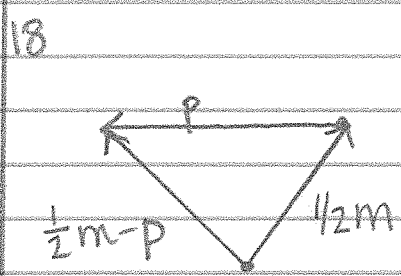
13.  $\tan \theta = 4/3$ $\theta = \boxed{63.435^\circ}$

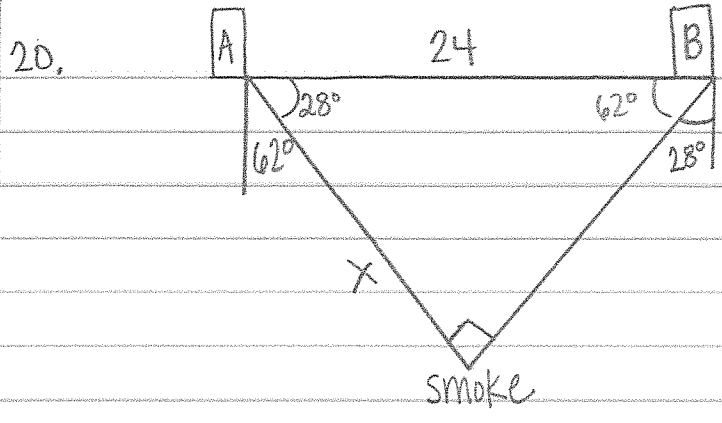
14.  $\tan \theta = 2/8$
 $\theta = 14.036^\circ$
 direction angle = $360^\circ - 14.036^\circ$
 $= \boxed{345.964^\circ}$

15.  $\tan \theta = 9/5$
 $\theta = 60.945^\circ$
 direction angle = $180^\circ - 60.945^\circ$
 $= \boxed{119.055^\circ}$

16. $(5+4)i + (-2-3)j = \boxed{9i - 5j}$

17. $(3-2)i + (7-1)j = \boxed{i + 6j}$





$$\cos 28^\circ = \frac{x}{24}$$

$$x = 21.191 \text{ miles}$$