Trig Applications

Right Angle Triangles: $c^2 = a^2 + b^2$

(SOHCAHTOA) $\sin\theta = \frac{opp}{hyp}$ $\cos\theta = \frac{adj}{hyp}$ $\tan\theta = \frac{opp}{adj}$

$Area = \frac{1}{2}bh$

Non-Right Triangles: Law of Sines

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

* Watch out for SSA if solving for θ. There could be 2 solutions θ and $180° - \theta$

Law of Cosines:

$$c^2 = a^2 + b^2 - 2ab\cos C$$

* watch your order of ops (BEDMAS)
* watch out for $\angle C > 90° \Rightarrow$ negative

① use if trying to find 3rd side knowing SAS

② use to find an angle if you know all 3 sides.

$$c^2 = a^2 + b^2 - 2ab\cos C$$

$$\frac{c^2 - a^2 - b^2}{-2ab} = \frac{-2ab\cos C}{-2ab}$$

$$\cos C = \frac{c^2 - a^2 - b^2}{(-2ab)}$$

↑ be careful

Area: $Area = \frac{1}{2}ab\sin C$ (SAS)

▽ area of a quadrilateral

Review:

① Read over p266-270

② p271 | 1, 2, 5, 6, 7, 9

DON'T FORGET AZIMUTH!