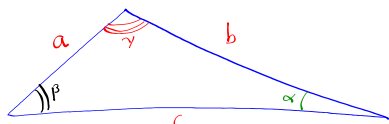


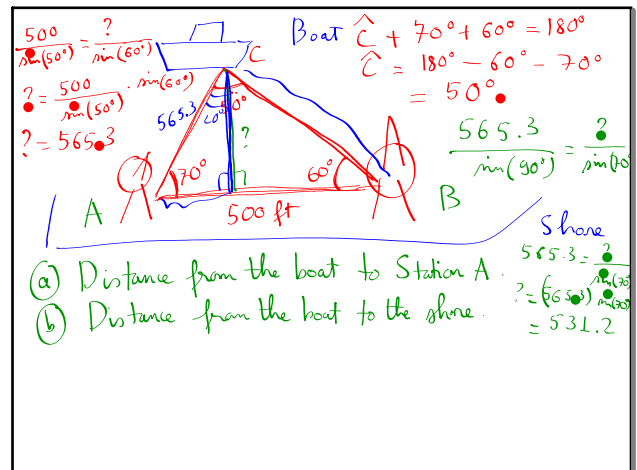
8.1 The Law of Sines



Law of Sines:

$$\frac{\sin \alpha}{a} = \frac{\sin \beta}{b} = \frac{\sin \gamma}{c}$$
$$\frac{a}{\sin \alpha} = \frac{b}{\sin \beta} = \frac{c}{\sin \gamma}$$

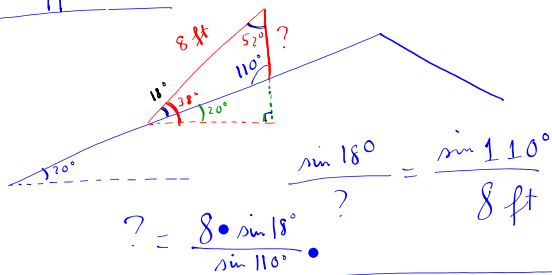
An application.



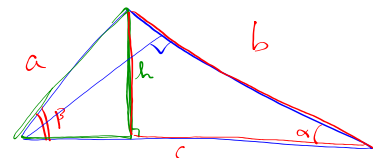
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An Application



Why the law of sines is true



$$\frac{h}{a} = \sin \beta \quad ; \quad \frac{h}{b} = \sin \alpha$$
$$h = a \sin \beta \quad ; \quad h = b \sin \alpha$$
$$\frac{a \sin \beta}{\sin \alpha} = \frac{b \sin \alpha}{\sin \alpha}$$
$$\frac{a \cancel{\sin \beta}}{\sin \alpha} = \frac{b}{\sin \beta}$$
$$\frac{a}{\sin \alpha} = \frac{b}{\sin \beta}$$

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