



Write as a fraction

0.28

$$x = 0.2888\dots$$

$$10x = 2.888\dots$$

$$100x = 28.888\dots$$

$$90x = 26$$

$$x = \frac{26}{90}$$

$$x = \frac{13}{45}$$

$$f(x) = \frac{ax + 3}{4}$$

Given

$$f(7) = 6$$

Find a

$$\frac{7a+3}{4} = 6$$

$$7a+3 = 24$$

$$7a = 21$$

$$a = 3$$

$$3^x = 9\sqrt{3} \quad \text{and} \quad 3^y = \frac{1}{\sqrt{3}}$$

Work out 3^{x-y}

$$3^3 = 27$$

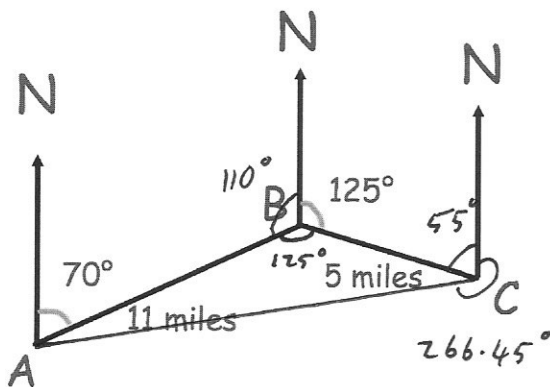
$$3^x = 3^2 \times 3^{\frac{1}{2}} = 3^{2\frac{1}{2}}$$

$$3^y = \frac{1}{3^{\frac{1}{2}}} = 3^{-\frac{1}{2}}$$

$$x = 2\frac{1}{2} \quad y = -\frac{1}{2}$$

$$x - y = 3$$

Shown are three towns, Antrim, Ballyclare and Carrickfergus.



Find the bearing of Antrim from Carrickfergus.

$$AC^2 = 5^2 + 11^2 - 2 \times 5 \times 11 \times \cos 125$$

$$AC = 14.46006 \text{ miles}$$

$$\frac{\sin 125}{14.46} = \frac{\sin x}{11}$$

$$x = 38.546^\circ$$

$$266.45^\circ$$