



Write 1.2454545... as a fraction

$$x = 1.24545\dots$$

$$10x = 12.4545\dots$$

$$1000x = 1245.4545\dots$$

$$990x = 1233$$

$$x = \frac{1233}{990}$$

$$x = \frac{137}{110} = 1\frac{27}{110}$$

Two positive integers have a difference of 4.
Prove the difference between the squares of the integers is four times the sum of the integers.

$$n \quad \& \quad n+4$$

Difference

$$(n+4)^2 - n^2 = 8n + 16$$

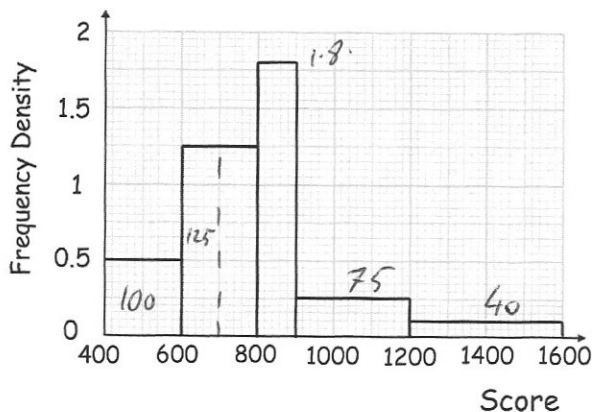
$$4(n+4)$$

Sum

$$2n + 4$$

\therefore Difference is 4 times sum.

The histogram shows information about the scores 645 players obtained in a game.



Estimate the number of players who scored under 700 points.

$$100 + 125 = 225$$

20% of players scored over Y points.

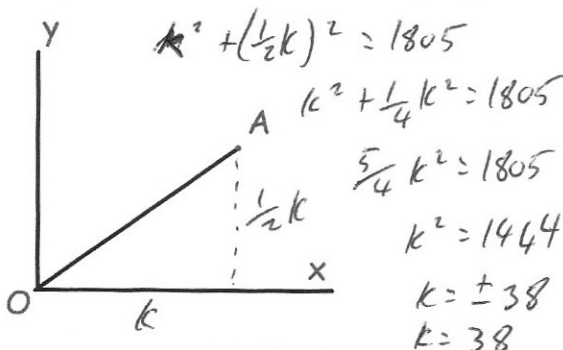
Work out an estimate for Y.

$$20\% \text{ of } 645 = 129$$

$$129 - 115 = 14$$

$$14 \div 1.8 = 7.\bar{7}$$

$$900 - 7.\bar{7} = 892.\bar{2}$$



Shown is a straight line joining O and A.

The length of the line is $\sqrt{1805}$

The gradient of the line is $\frac{1}{2}$

Find the coordinates of A.

$$(38, 19)$$