



Rearrange

$$y = \frac{7(x-w)}{w} \text{ to make } w \text{ the subject}$$

$$wy = 7x - 7w$$

$$wy + 7w = 7x$$

$$w(y+7) = 7x$$

$$w = \frac{7x}{y+7}$$

Weight (x kg)	Frequency
$60 < x \leq 64$	10 x
$64 < x \leq 68$	20 x
$68 < x \leq 72$	30 ✓
$72 < x \leq 76$	15
$76 < x \leq 80$	18
$80 < x \leq 84$	7
	<u>100</u>

The weights of some rugby players are recorded in the table. *50th value*

Find the median by using linear interpolation.

$$68 + \frac{20}{30} \times 4 = 70.6 \text{ kg}$$

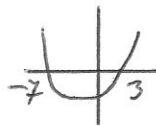
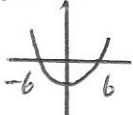
Two players are chosen at random. Calculate the probability that both players are over 80kg

$$\frac{7}{100} \times \frac{6}{99} = \frac{7}{1650}$$

Find the set of values of x for which $x^2 - 36 > 0$ and $x^2 + 4x - 21 > 0$

$$(x-6)(x+6)$$

$$(x+7)(x-3)$$



$$x < -7 \text{ or } x > 6$$

The line l is a tangent to the circle $O(0,0)$ $x^2 + y^2 = 90$ at the point $P(3,9)$

P is the point $(3, 9)$
The line l crosses the x -axis at the point Q .

$$\text{gradient of } OP = 3$$

$$\text{gradient of } L = -\frac{1}{3}$$

$$y = -\frac{1}{3}x + c$$

$$9 = -1 + c$$

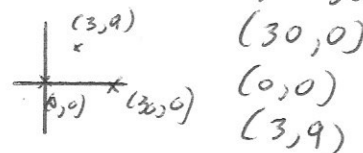
$$c = 10$$

$$y = -\frac{1}{3}x + 10$$

Work out the area of triangle OPQ .

$$y=0 \quad 0 = -\frac{1}{3}x + 10$$

$$x = 30$$



$$\frac{1}{2} \times 30 \times 9 = 135$$