47

There are 10 men, 10 women and 20 children in a race.

The mean time for the men is 25
The mean time for the women is 17
The mean time for everyone is 26

Calculate the mean score for the children.

26

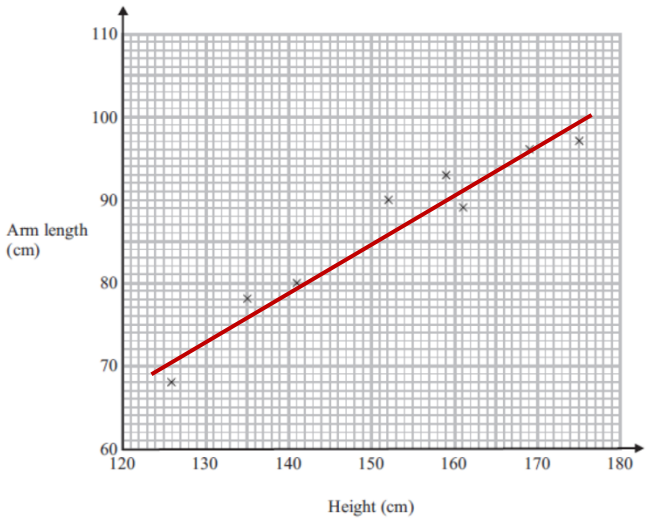
The formula for the volume of a cone is:

$$V = \frac{1}{3}\pi r^2 h$$

The cone has a height of 7.59cm and a volume of 197.8cm^3

Estimate the radius.

1



Using the scatter graph, work out an estimate for the arm length of someone who is 150cm in height.

6.25

Express 360 as a product of prime factors.

Express 144 as a product of prime factors.

What is the highest common factor of 360 and 144?

31

Work out:

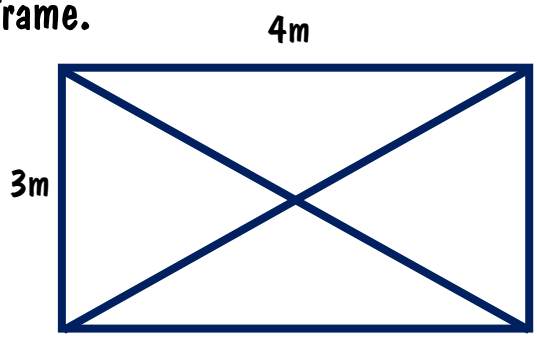
$$29.6 \times 4.7$$

Write your answer in standard form.

5

A painter is going to create a metal frame for a new piece of art using 6 metal rods. The weight of the metal is 1.8kg per metre.

Calculate the total weight of the frame.



85

What is the modal gradient (most common) in the line equations below?

$2y = 8x + 6$
$3y = 6x - 9$
$4y - 8x = 9$
$3y - 12x - 16 = 0$
$5y - 15y - 7 = 0$
$2y - 4x - 5 = 0$

72

Work out the value of:

$$(3 \times 10^4) \times (4 \times 10^5)$$

Work out the value of:

$$(2.04 \times 10^7) \div (4 \times 10^{-2})$$

Find the sum of your two answers; give your answer in standard form.

1.3912×10^2

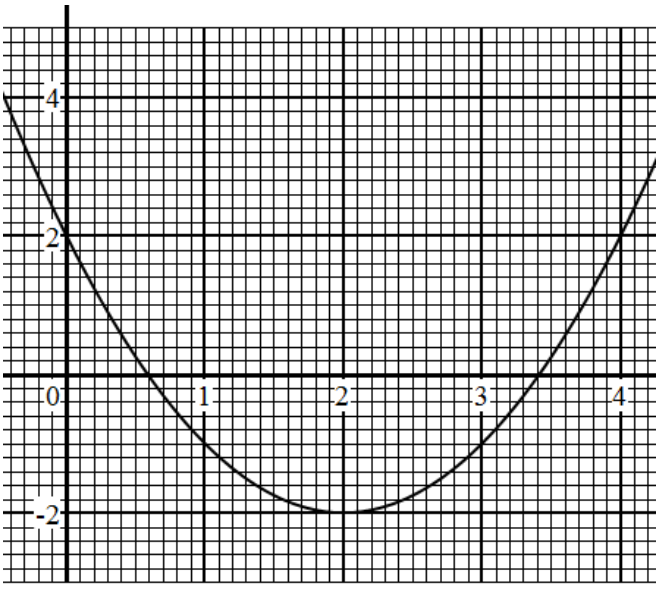
The price of a vintage car increases in value by 30%.

The new selling price of the car is:

£23,400.

Work out the price of the car before the increase.

1.251×10^{10}



Use the graph to find an estimate for the value of f(1)

2

Find the value of:

$$\left(\frac{125}{1000}\right)^{-\frac{2}{3}}$$

43.2

P is inversely proportional to V.

When $V=8$, $P=5$

Find a formula for P in term of V.

Calculate the value of P when $V=2$

18000

There are 5 blue counters and 3 red counters in a bag.

James takes at random 2 counters from the bag.

Work out the probability that James takes two of the same colour.

What is the numerator of the fraction?

-1

Find an expression in terms of n for the following sequence

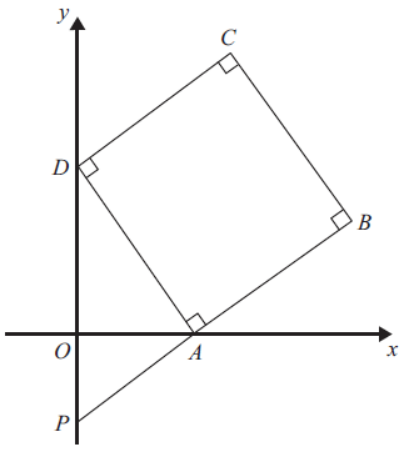
8 , 19 , 34 , 53 , 76

Write your answer in the form:

$an^2 + bn + c$

What is the value of c?

4



ABCD is a square.
PAB is a straight line.
Line AD has the equation $y = -2x + 5$
Find the length PD.

20

Show that $(x+3)(x+4)(x+5)$
Can be written in the form:

$ax^3 + bx^2 + cx + d$
where a, b ,c and d are integers.

What is the value of c?