

1 Work out the following:

a. $18.54 + 0.61 - 5.3$

b. 3.36×70

c. $0.296 \div 4$

d. $\frac{3}{4}$ of 480 metres

e. $1710 \div 30$

f. $3.58 - 2.73$

g. 60% of 240 cm

h. 70% of 150 kg

i. 42.8×8

j. $\frac{3}{4} + \frac{1}{16}$

k. $\frac{2}{3} + \frac{5}{6}$

l. simplify $3(2p - 3r) + 5p$

m. Factorise $10a + 15b$

2. Andrew and his brother are flying to America on holiday.

Their flight times are shown below.

Depart Glasgow	30/6/04	2120
Arrive Reykjavik, Iceland	30/6/04	2235
Depart Reykjavik, Iceland	1/7/04	0105
Arrive New York, USA	1/7/04	0455

How long will the brothers have to wait at Reykjavik in Iceland before their flight to New York ?

3. Two trains run from Aberdeen to London Kings Cross.

They both have **the same journey time**.

	Train 1	Train 2
Aberdeen Depart	14 55	21 25
Kings Cross Arrive	22 29	

Find the arrival time for Train 2 at Kings Cross.

4. The largest ocean in the world is the Pacific Ocean.

Its area is approximately 1.813×10^8 square kilometres.

Write this number in full.

5. Last month a garage sold 12 red cars, 9 silver cars and 15 black cars.

a) Joe bought one of these cars.

What is the probability that the car Joe bought was silver ?

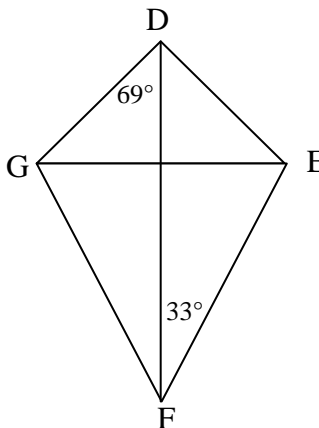
Give your answer as a fraction in its simplest form.

b) Calculate the probability that the customer **after** Joe bought a red car.

6. DEFG is a kite

- Angle GDF is 69°
- Angle EFD is 33°

Calculate the size of angle DGF.



7. An 80 gm chocolate bar contains 12 grams of fat.

How many grams of fat will a chocolate bar weighing 120gm contain ?

8. The heating in Bruce’s house switches on automatically when the outside temperature drops to -5°C .

One day last winter the outside temperature was 9°C .

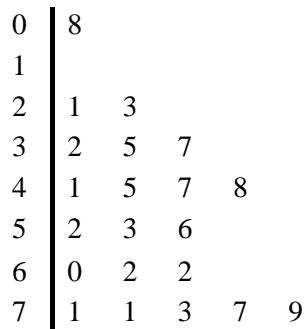
Calculate the drop in temperature when the heating switched on automatically.

9. The planet Pluto is approximately 7364 million kilometres from the Sun.

Write this number in scientific notation.

10. The number of hours of sunshine was recorded daily in a city during a three-week period in June.

The results are shown in the stem and leaf diagram to the right.
Using this diagram:



a) calculate the range.

b) find the median number of hours.

$n = 21$ $3|2$ represents 3.2 hours

11. Davina has a bag of sweets.

It contains 3 yellow sweets, four purple sweets, two red sweets and 6 pink sweets.

The corner of her bag is torn and a sweet falls out.

(a) What is the probability that this sweet is yellow ?

(b) The sweet that fell out was yellow and she put it in a bin.

What is the probability that the next sweet to fall out is pink ?

12. There are 1 blue, 2 red and 3 yellow counters in a bag.

a) A counter is taken from the bag.

What is the probability that the counter is red ?

1 KU

b) The counter is replaced in the bag and two green counters are added to the bag.

A counter is taken from the bag.

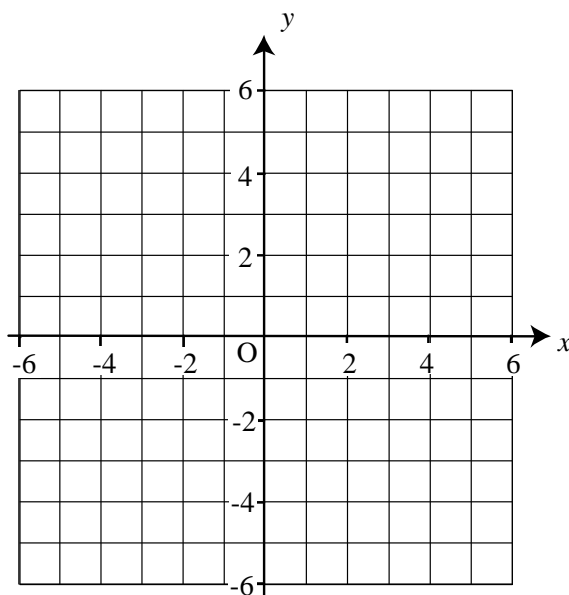
What is the probability that it is **not** yellow ?

2 RE

13. (a) On the grid, plot the points
A(-4, -3), B(3, -1) and C(4, 4)

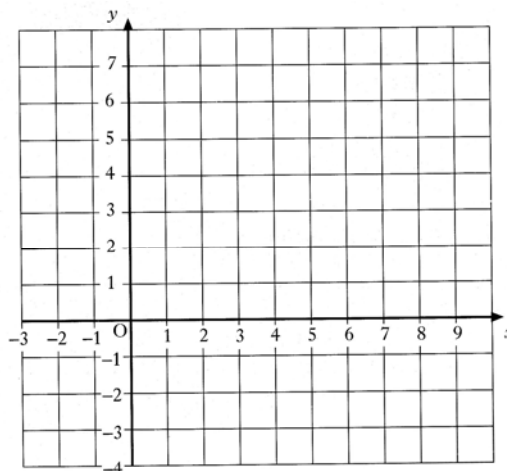
(b) Find the gradient of the line AB.

(c) Plot the fourth point D, so that
shape ABCD is a parallelogram.
Write down the coordinates of D.



14. a) Plot the points $A(4, 6)$ and $C(4, -2)$ on this grid.

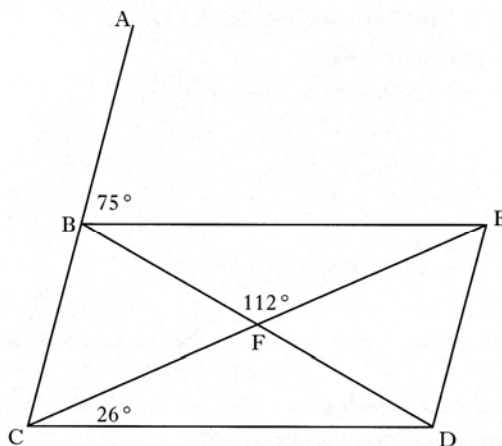
b) $ABCD$ is a rhombus with area 24 square units.
Plot B and D on the grid.



15. $BCDE$ is a parallelogram.

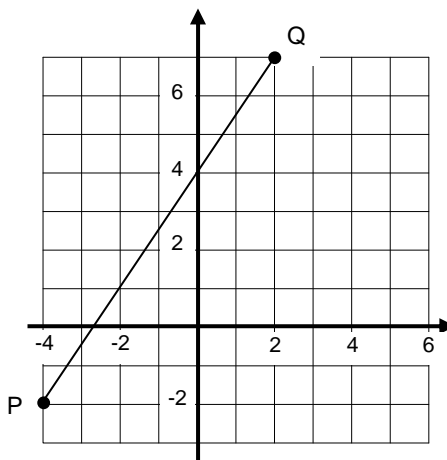
Angle $ABE = 75^\circ$, angle $ECD = 26^\circ$, angle $BFE = 112^\circ$

Calculate the size of angle CBD .

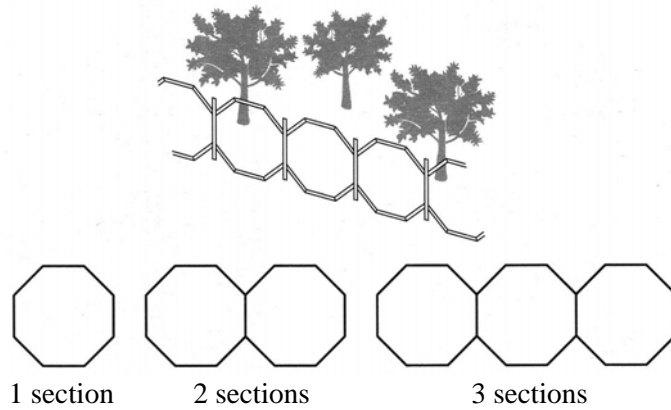


16. a) Find the gradient of the line PQ

b) Write down the equation of the line PQ
in the form $y = mx + c$



17. A metal fence for a garden is made by joining iron bars as shown below.



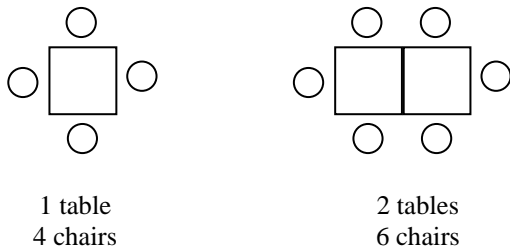
a) Complete this table

Number of sections (s)	1	2	3	4		12
Number of iron bars (b)	8		22			

b) Find a formula for calculating the number of iron bars (b), when you know the number of sections (s).

c) A fence has been made by joining 176 iron bars.
How many sections are in this fence ?

18. A restaurant has square tables.
The chairs and the tables can be arranged as shown.



a) copy and complete the table below:

Tables	1	2	3	4	10	T
Chairs		6					

b) Write down the formula for the number of chairs C, when you have T tables.