Find the sum

1. $3\frac{1}{4} + 3\frac{5}{8} =$ _____

2. $9\frac{9}{10} + 2\frac{3}{5} =$ _____

3. $3\frac{5}{11} + 7\frac{2}{3} =$ _____

4. $5\frac{2}{8} + 2\frac{4}{10} =$ _____

5. $8\frac{7}{9} + 5\frac{9}{11} =$ _____

6. $6\frac{2}{7} + 7\frac{1}{2} =$ _____

7. $5\frac{1}{2} + 8\frac{3}{4} =$ _____

8. $10\frac{2}{3} + 7\frac{1}{7} =$ _____

9. $10\frac{8}{10} + 9\frac{7}{12} =$ _____

10. $3\frac{7}{8} + 3\frac{1}{3} =$ _____

Here are five fraction cards.

A $\frac{3}{5}$	B $\frac{2}{9}$	C $\frac{1}{6}$	D $\frac{7}{20}$	E $\frac{4}{15}$

Write down which of these fractions are

i terminating decimals

.....

.....

ii recurring decimals.

.....

.....

Find the Difference

1. $16\frac{3}{9} - 10\frac{2}{5} =$ _____

2. $7\frac{5}{12} - 2\frac{1}{2} =$ _____

3. $8\frac{9}{10} - 3\frac{2}{3} =$ _____

4. $19\frac{2}{3} - 11\frac{5}{8} =$ _____

5. $13\frac{1}{8} - 12\frac{10}{12} =$ _____

6. $18\frac{1}{2} - 17\frac{2}{8} =$ _____

7. $14\frac{4}{10} - 13\frac{1}{3} =$ _____

8. $19\frac{7}{12} - 19\frac{1}{5} =$ _____

9. $20\frac{3}{4} - 18\frac{2}{3} =$ _____

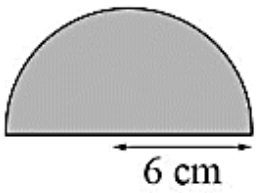
10. $19\frac{7}{10} - 13\frac{4}{10} =$ _____

Work out the circumference of the circle with a diameter of 10 cm. Use $\pi = 3.14$.

.....

.....

Work out the perimeter of this semicircle. Use $\pi = 3.142$.



.....

.....

Multiplying and Dividing Fractions

① $\frac{3}{8} \times 3 =$

② $\frac{1}{5} \div 8 =$

③ $\frac{1}{18} \times 16 =$

④ $\frac{11}{12} \times 6 =$

⑤ $\frac{9}{8} \div 18 =$

⑥ $\frac{2}{10} \div 9 =$

⑦ $\frac{20}{26} \times 5 =$

⑧ $\frac{21}{24} \div 6 =$

Indicate how many significant figures there are in each of the following values.

246.32	_____	1.008	_____	700000	_____
107.854	_____	0.00340	_____	350.670	_____
100.3	_____	14.600	_____	1.0000	_____
0.678	_____	0.0001	_____	320001	_____

Round these numbers to 1 significant figure

1) 328 → 300 2) 57 → _____ 3) 817 → _____

4) 15.6 → _____ 5) 0.735 → _____ 6) 9326 → _____

Round these numbers to 2 significant figures

1) 352 → 350 2) 926 → _____ 3) 1868 → _____

4) 15.9 → _____ 5) 0.273 → _____ 6) 2.284 → _____

Round these numbers to 3 significant figures

1) 273.7 → 274 2) 8237 → _____ 3) 635.2 → _____

4) 0.3837 → _____ 5) 5.372 → _____ 6) 1.736 → _____

Question 1: Use division to convert these fractions to recurring decimals.

(a) $\frac{1}{3}$ (b) $\frac{2}{3}$ (c) $\frac{4}{9}$ (d) $\frac{7}{9}$ (e) $\frac{1}{6}$ (f) $\frac{5}{6}$

(g) $\frac{3}{11}$ (h) $\frac{8}{15}$ (i) $\frac{5}{22}$ (j) $\frac{1}{7}$ (k) $\frac{1}{30}$ (l) $\frac{6}{7}$

Question 2: Convert the following recurring decimals to fractions.
Give each answer in its simplest form.

(a) 0.5555... (b) 0.1111... (c) 0.121212...

(d) 0.363636... (e) 0.919191... (f) 0.727272...

(g) 0.125125... (h) 0.621621... (i) 0.204204...

Find the product.

1) $0.5 \times 0.4 =$

2) $2.5 \times 0.2 =$

3) $1.25 \times 0.5 =$

4) $0.75 \times 0.2 =$

5) $1.92 \times 0.8 =$

6) $0.55 \times 0.4 =$

7) $3.24 \times 1.2 =$

8) $12.5 \times 4.2 =$

9) $22.6 \times 8.2 =$

10) $17.2 \times 4.5 =$

11) $25.1 \times 12.5 =$

12) $33.2 \times 2.2 =$

Find the quotient.

13) $1.67 \div 100 =$

14) $52.2 \div 1{,}000 =$

15) $4.2 \div 2 =$

16) $8.6 \div 0.5 =$

17) $12.6 \div 0.2 =$

18) $16.5 \div 5 =$

19) $13.25 \div 100 =$

20) $25.6 \div 0.4 =$

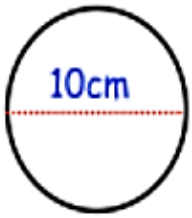
21) $28.24 \div 0.1 =$

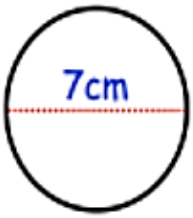
22) $34.16 \div 0.25 =$

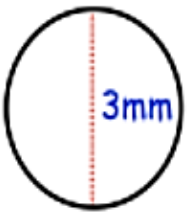
23) $44.28 \div 0.5 =$

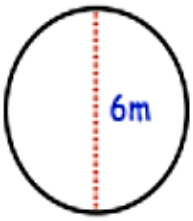
24) $38.78 \div 0.02 =$

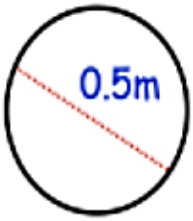
Question 1: Calculate the circumference of the following circles.
Give your answers to 1 decimal place.

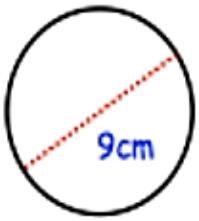
(a) 

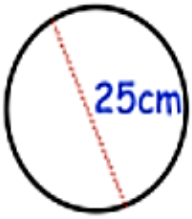
(b) 

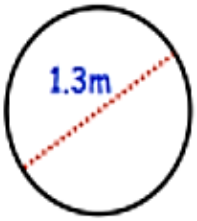
(c) 

(d) 

(e) 

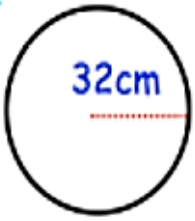
(f) 

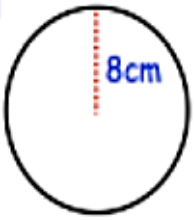
(g) 

(h) 

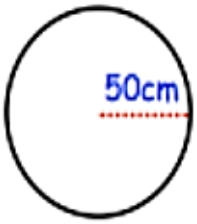
Question 2: Calculate the circumference of the following circles.
Give your answers to 1 decimal place.

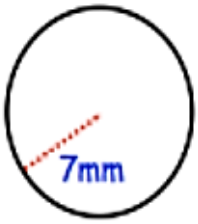
(a) 

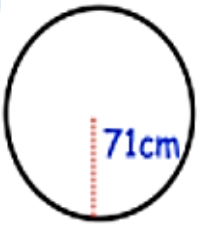
(b) 

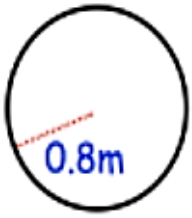
(c) 

(d) 

(e) 

(f) 

(g) 

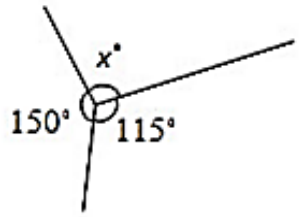
(h) 

Question 3: Work out the circumference of the following circles.
Give your answers to 1 decimal place.

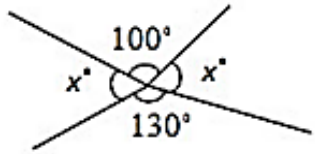
(a) A circle with diameter 2cm
(b) A circle with diameter 14m
(c) A circle with radius 3cm
(d) A circle with radius 0.15km
(e) A circle with diameter 90 inches
(f) A circle with radius 5.7 yards

Calculate the value of x in the following figures:

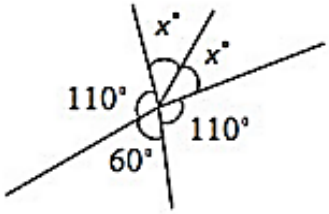
a)



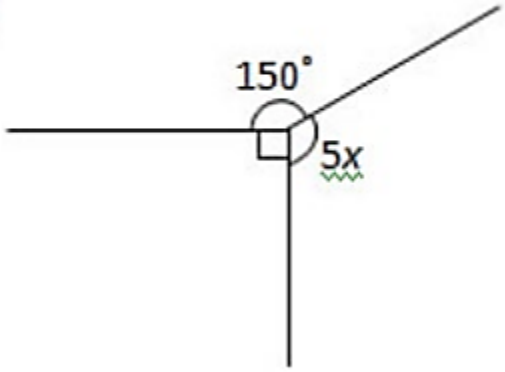
b)



c)

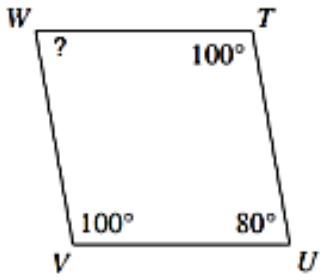


d)

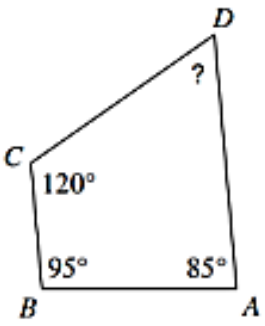


Find the missing angle.

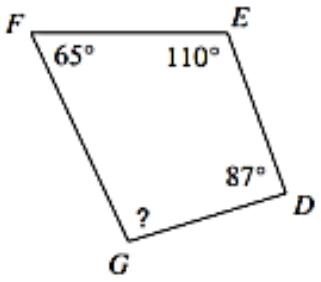
1)



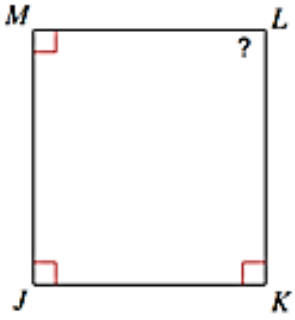
2)



3)

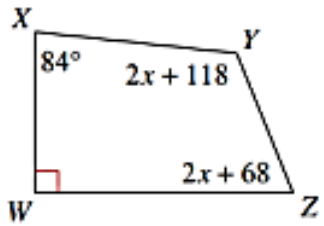


4)

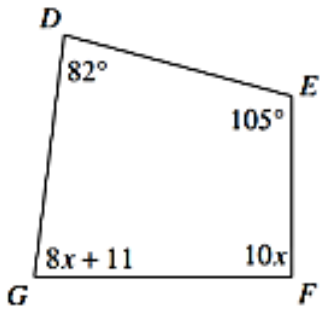


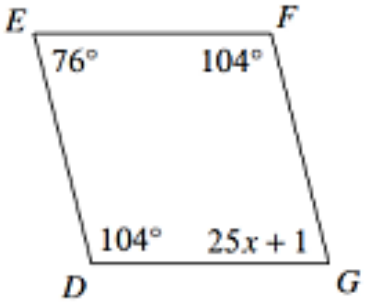
Find the measure of each angle indicated.

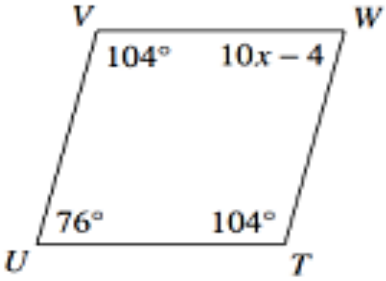
$m\angle Y$



$m\angle F$

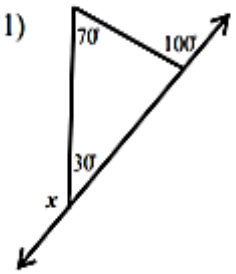






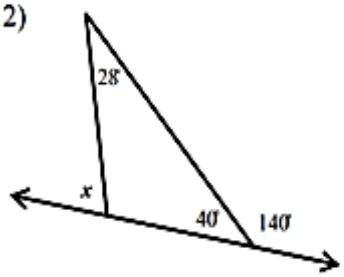
Exterior angle in triangle

1)



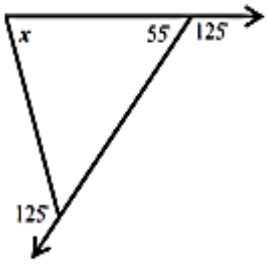
x = _____

2)



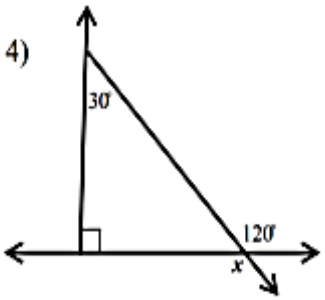
x = _____

3)



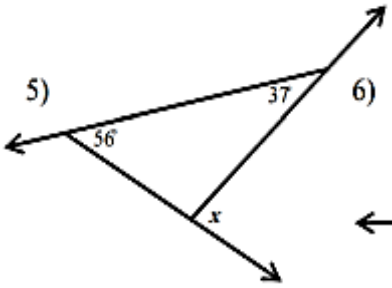
x = _____

4)



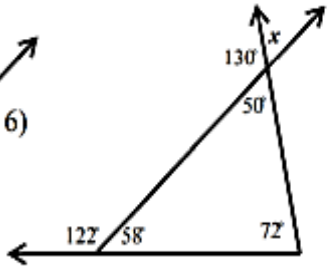
x = _____

5)



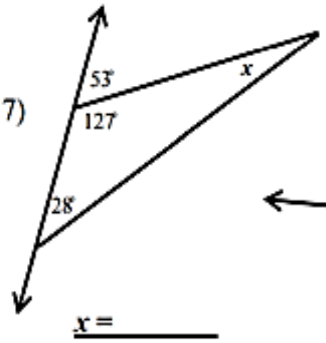
x = _____

6)



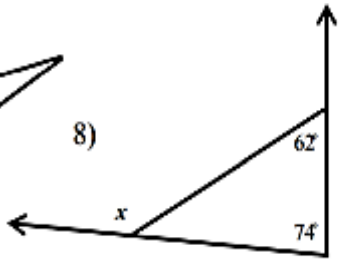
x = _____

7)



x = _____

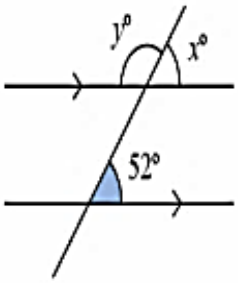
8)



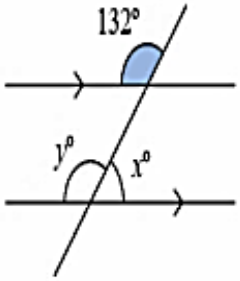
x = _____

angles in parallel lines and intersecting lines

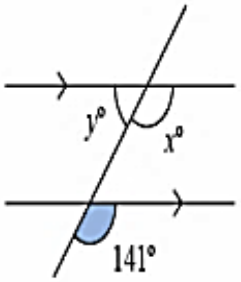
A1 Find the values of x and y



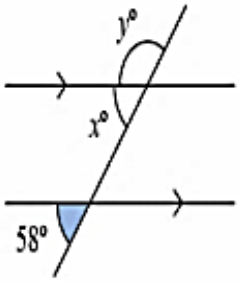
A2 Find the values of x and y



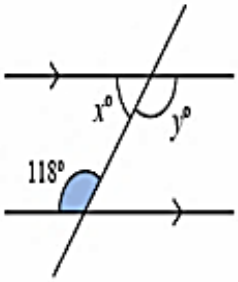
A3 Find the values of x and y



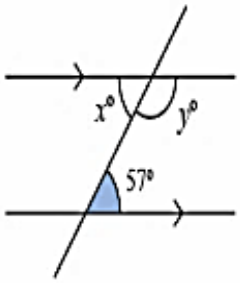
A4 Find the values of x and y



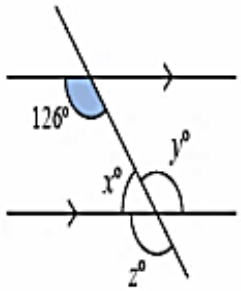
B1 Find the values of x and y



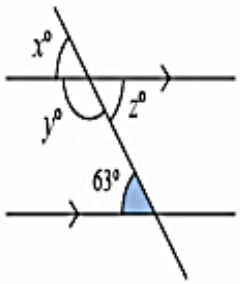
B2 Find the values of x and y



B3 Find the values of x, y and z



B4 Find the values of x, y and z



1. $38 \div 5 =$

2. $91 \div 5$

3. $62 \div 8 =$

4. $72 \div 5$

1) $\frac{2}{8} = \frac{\quad}{32}$

2) $\frac{4}{7} = \frac{\quad}{28}$

3) $\frac{4}{9} = \frac{\quad}{45}$

4) $\frac{2}{9} = \frac{12}{\quad}$

5) $\frac{4}{7} = \frac{24}{\quad}$

6) $\frac{7}{13} = \frac{\quad}{52}$

Work out.

1) $\frac{29}{4} =$ ____

2) $\frac{13}{6} =$ ____

3) $\frac{73}{9} =$ ____

4) $\frac{65}{8} =$ ____

5) $\frac{17}{2} =$ ____

6) $\frac{5}{2} =$ ____

7) $\frac{25}{4} =$ ____

8) $\frac{43}{7} =$ ____

9) $\frac{29}{4} =$ ____

10) $\frac{73}{9} =$ ____

11) $\frac{19}{3} =$ ____

12) $\frac{43}{7} =$ ____

13) $\frac{11}{5} =$ ____

14) $\frac{91}{10} =$ ____

15) $\frac{37}{6} =$ ____

16) $\frac{59}{6} =$

17) $\frac{13}{5} =$

18) $\frac{83}{8} =$

1. Change these improper fractions to mixed numbers.

(a) $\frac{4}{3}$ **(b)** $\frac{7}{5}$ **(c)** $\frac{7}{6}$ **(d)** $\frac{7}{4}$ **(e)** $\frac{13}{8}$

(f) $\frac{15}{10}$ **(g)** $\frac{7}{3}$ **(h)** $\frac{14}{3}$ **(i)** $\frac{16}{5}$ **(j)** $\frac{25}{6}$

2. Change these top-heavy fractions to mixed numbers.

(a) $\frac{3}{2}$ **(b)** $\frac{13}{8}$ **(c)** $\frac{11}{4}$ **(d)** $\frac{14}{3}$

(e) $\frac{33}{7}$ **(f)** $\frac{45}{6}$ **(g)** $\frac{48}{7}$ **(h)** $\frac{82}{9}$

3. Change these mixed numbers to improper fractions.

(a) $1\frac{1}{2}$ **(b)** $1\frac{2}{3}$ **(c)** $2\frac{1}{3}$ **(d)** $2\frac{2}{3}$ **(e)** $2\frac{3}{5}$

(f) $3\frac{1}{4}$ **(g)** $3\frac{1}{5}$ **(h)** $3\frac{3}{5}$ **(i)** $4\frac{1}{2}$ **(j)** $5\frac{1}{5}$

4. Change these mixed numbers to top-heavy fractions.

(a) $2\frac{2}{3}$ **(b)** $1\frac{9}{10}$ **(c)** $2\frac{11}{12}$ **(d)** $2\frac{9}{16}$

(e) $3\frac{7}{12}$ **(f)** $4\frac{3}{5}$ **(g)** $5\frac{3}{7}$ **(h)** $6\frac{7}{11}$

The first three terms of a sequence are 6, 12, 30, . . .

a) Which of these cards, A, B or C, shows the correct term-to-term rule? .....

Show how you worked out your answer.

A multiply by 4 then subtract 12	B divide by 2 then add 9	C subtract 2 then multiply by 3

.....

Workout:

(a) 18.6×2.7

(b) 17.5×1.4

(c) 145×1.8

(d) 0.6×0.6

(e) 0.3×1.1

(f) 0.7×6.4

(g) 6×0.3

(h) 0.2×0.8

(i) 5.7×6.2

(j) 4.3×0.9

(k) 0.9×0.9

a) $6.4 \div 0.4$

b) $12.8 \div 0.8$

c) $3.5 \div 0.5$

d) $14 \div 0.7$

e) $4.2 \div 0.3$

f) $4.5 \div 0.9$

g) $1.2 \div 0.4$

h) $8.4 \div 0.8$

i) $6.024 \div 0.2$

j) $0.85 \div 0.1$

k) $1.22 \div 0.5$

For each of the following, state if the data would be discrete or continuous:

(a) The number of people in a room

(b) The mass of a book

(c) The number of pages in a book

(d) The length of a line

(e) The time taken to complete a puzzle

(f) The size of a shoe

(g) The number of glasses in a dishwasher

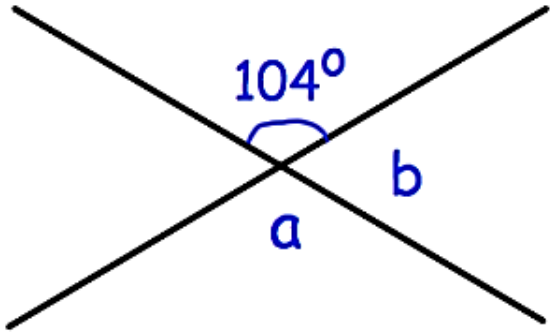
(h) The volume of water in a bottle

(i) The number of songs in an album

(j) The weight of an apple

(k) The number of people at a football match

Find the missing angles.

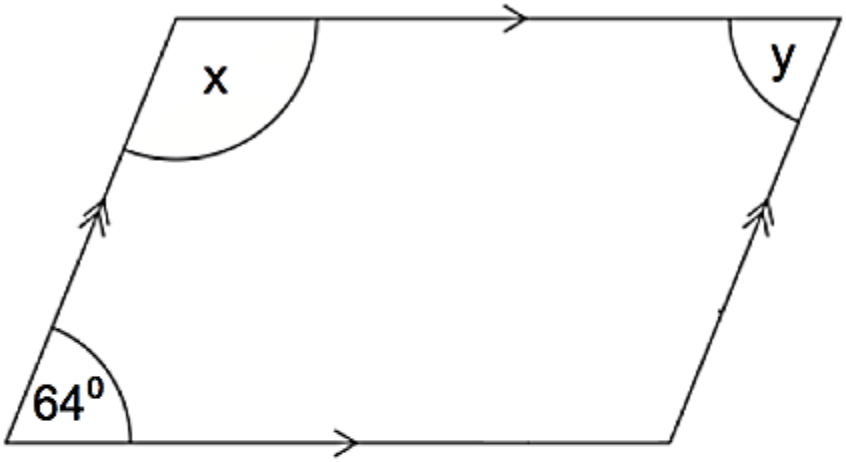


(a) Work out the size of angle a.

.....

(a) Work out the size of angle b.

.....



The diagram above shows a parallelogram.

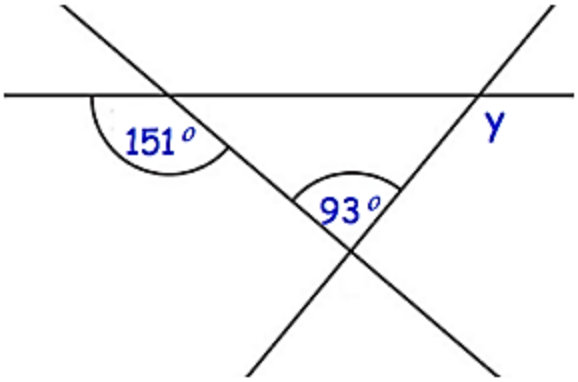
(a) Work out the size of the angle marked x.

.....°

(b) Work out the size of the angle marked y.

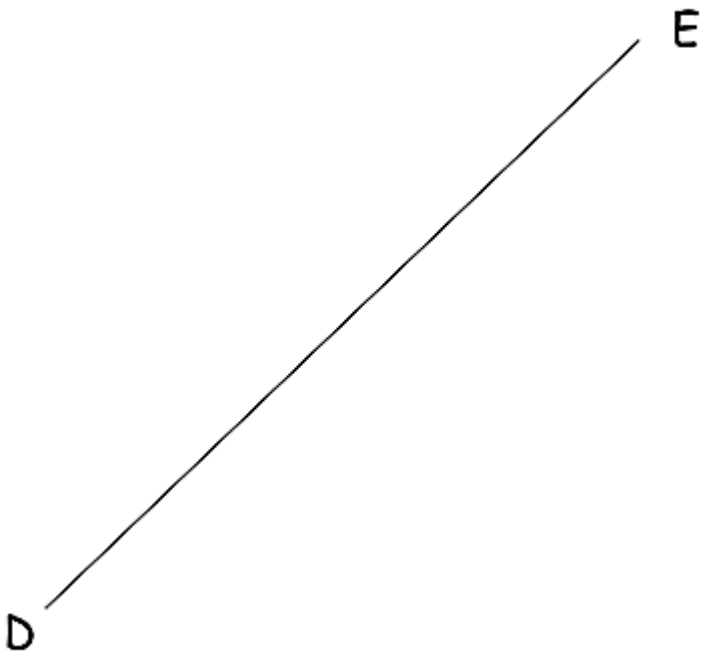
.....°

Below are 3 straight lines.



Find the size of angle y.

Use a ruler and compasses to construct the perpendicular bisector of DE.



Find the correct angle

(a) Which angle is corresponding to angle c?

(b) Which angle is alternate to angle d?

(c) Which angle is corresponding to angle h?

(d) Which angle is vertically opposite to angle a?

(e) Which angle is alternate to angle e?

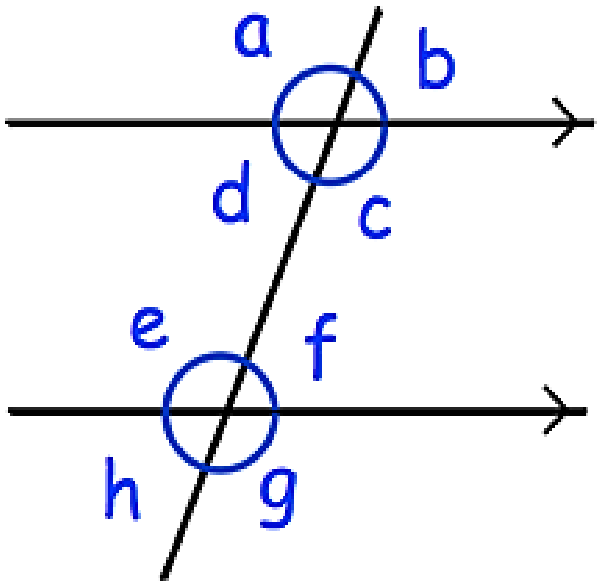
(f) Which angle is co-interior with angle c?

(g) Which angle is vertically opposite to angle h?

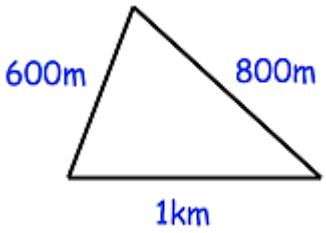
(h) Which angle is co-interior with angle e?

(i) Which angle is corresponding to angle a?

(j) Which angle is vertically opposite to angle g?



Using the scale of 1cm = 200m, construct the following triangles



This pattern is made from rectangles.

Write down the sequence of the numbers of rectangles. .....

Write down the term-to-term rule. .....

Draw the next pattern in the sequence.

Work out the first three terms and the 10th term of the sequences with the given *n*th term.

a) $2n + 7$ .....

.....

First three terms: ___, ___, ___ 10th term: ___

b) $5n - 4$ .....

.....

First three terms: ___, ___, ___ 10th term: ___

Draw a line linking each function equation with its inverse equation.

A $y = 5x$	B $y = \frac{x}{5}$	C $y = x + 5$	D $y = 2x + 5$	E $y = \frac{x}{5} - 2$	F $y = \frac{x+2}{5}$

i $x = 5y$	ii $x = y - 5$	iii $x = 5(y + 2)$	iv $x = 5y - 2$	v $x = \frac{y}{5}$	vi $x = \frac{y-5}{2}$

Find 135% of 40 kg. .....

Find 0.8% of 7000 litres. .....

Write $70 as a percentage of $80. .....

Write 21 g as a percentage of 12 g. .....

Increase 400 by 40%. .....

Decrease 240 by 70%. .....

Decrease 4500 by 0.6%. .....

Decrease 680 by 95%. .....

The price of a TV is reduced by 40%. After the reduction, the price is $150.

Circle the price before the reduction from this list.

$210 **$240** **$250** **$375**

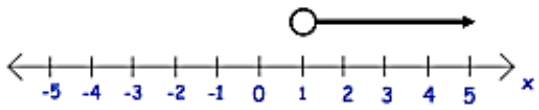
Write down the meaning of these inequalities

(a) $x > 6$ (b) $x < 2$ (c) $x \geq 1$ (d) $x \leq 4$

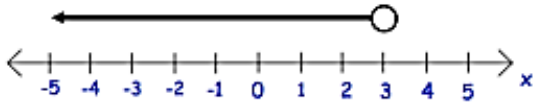
(e) $x \geq 0$ (f) $x \leq -4$ (g) $x < -2$ (h) $x > 20$

Write down the inequalities shown below

(a)

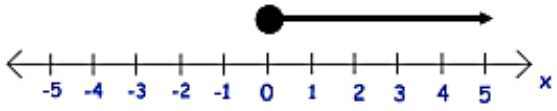


(b)



(c)

(d)



List all the integers (whole number) that satisfies each inequality

(a) $2 < x < 6$ (b) $5 < x < 10$ (c) $4 \leq x < 8$ (d) $12 \leq x \leq 15$

Round each of the numbers below to 2 decimal places

(a) 3.487 (b) 2.613 (c) 1.984 (d) 10.046 (e) 8.155

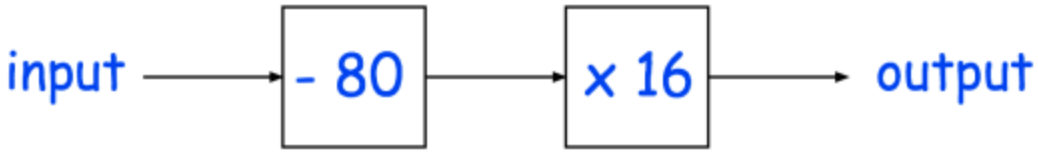
(f) 19.367 (g) 3.141 (h) 6.0698 (i) 4.26317 (j) 93.46197

Round each of the numbers below to 3 decimal places

(a) 0.0346 (b) 6.7568 (c) 4.2251 (d) 1.7583

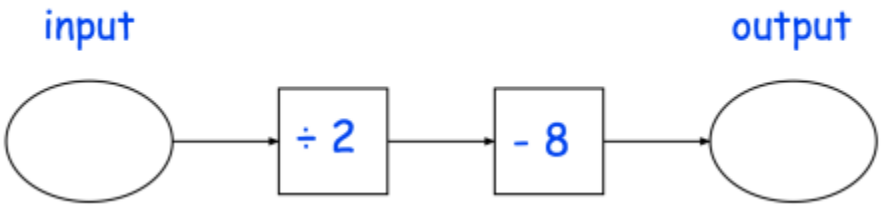
(e) 40.48546 (f) 128.01891 (g) 0.5059802 (h) 384.456094

Below is a number machine.



Work out the input when the output is 400

Here is a number machine.



(a) Work out the output when the input is 36

(b) Work out the input when the output is 0

(c) Work out the output when the input is 23

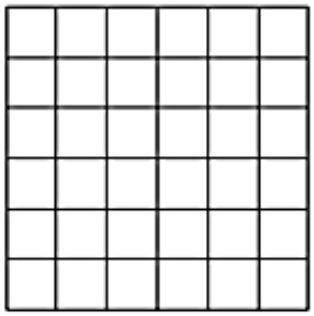
(d) Work out the input when the output is −1.5

Explain why $8x + 3y$ cannot be factorised.

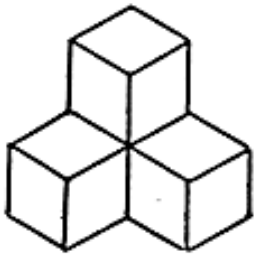
James has factorised an expression correctly.
His answer is $2(7y - 3)$.
What was the expression that he factorised?

Alexandra is trying to factorise fully $15y + 30$.
Rebecca says the answer is $3(5y + 10)$
Victoria says the answer is $5(3y + 6)$
Alexandra says both Rebecca and Victoria are incorrect, why?

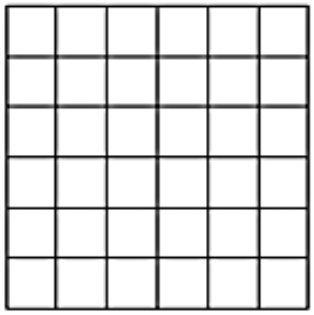
PLAN



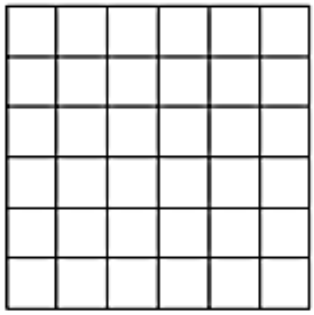
ISOMETRIC DRAWING



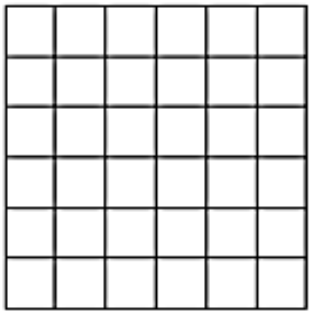
FRONT VIEW



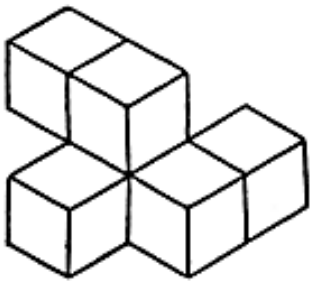
SIDE VIEW



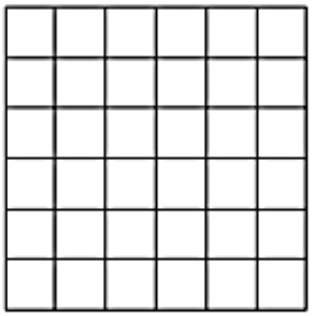
PLAN



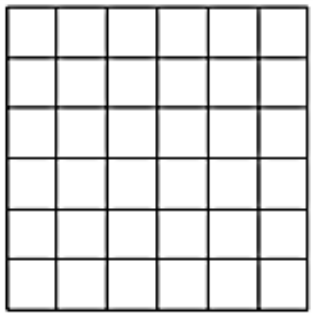
ISOMETRIC DRAWING



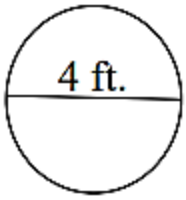
FRONT VIEW



SIDE VIEW



1.



Diameter=

Radius=

Area=

Circumference=

2.

Diameter=

Radius=

Area=

Circumference=

3.

Diameter=

Radius=

Area=

Circumference=

Solve the following problems using the formulas of area and perimeter of a circle :

1. Sohan purchased a wall clock. The radius of the clock is 20 cm. What is the area and circumference of the wall clock ?

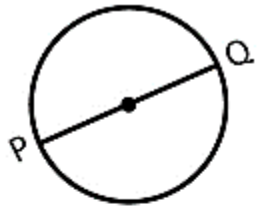
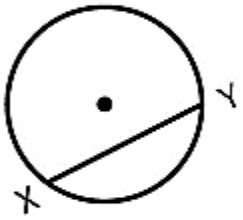
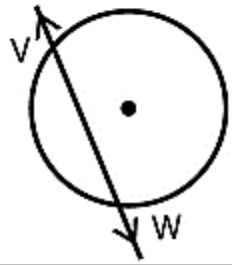
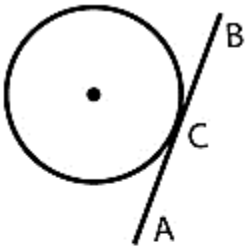
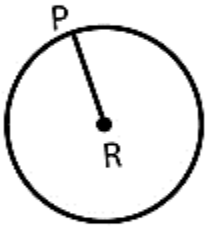
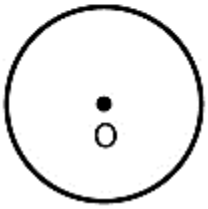
---

2. Pamela bought a new Fiat- four wheeler car. The radius of the wheel is 36 in. Find the area and circumference of the Fiat-wheel.

---

3. Ravi bought a big round drum for the evening party in christmas. The diameter of the drum is 33 in. Find the area and circumference of the drum.

Name and define the part marked in each circle

	Name of the part
	PQ = _____
	XY = _____
	VW = _____
	AB = _____
	PR = _____
	O = _____