THE CEDARS
SCHOOL

11+ Entrance Examination

MATHEMATICS

Specimen Paper

Time allowed: **1 hour**
Marks available: **90**
Answer all questions in the spaces provided.
Calculators may **not** be used.

NAME: _____

DATE OF BIRTH: _____

1. 7401 + 1649

Answer_____

(2)

2. 9823 – 909

Answer_____

(2)

3. 824 x 7

Answer_____

(2)

4. 15 045 ÷ 5

Answer_____

(2)

5. Write down the number which is 9 more than eight hundred and ninety-six.

Answer_____ (2)

6. Fill in the missing numbers to make the sum correct:

$$\begin{array}{r} 6\,\square\,9 \\ +\,\square\,3\,6 \\ \hline 9\,1\,5 \end{array}$$

(2)

7. A rugby squad has 36 players. Four ninths of them did not play in the first two games of the season. How many played in at least one of these first two matches?

Answer_____

(2)

8. Jermaine buys 9 packets of throat lozenges for £5.85. How much would 4 packets cost him?

Answer_____

(2)

9. Fill in the numbers in each sequence:

(a) 1, $\frac{1}{3}$, $\frac{1}{9}$, $\frac{1}{27}$, _____, _____

(b) 3.5, -0.5, -4.5, -8.5, _____, _____

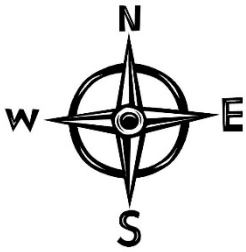
(c) 1, 1, 2, 3, 5, _____, _____

(6)

10. A chocolate bar costs 62p. How many can Sophie buy with a £5 note?

Answer_____

(2)

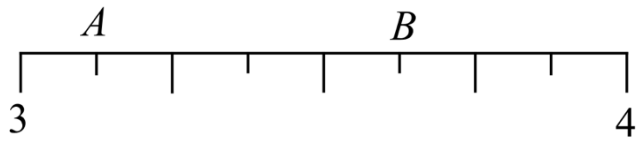
11. 

A man is standing facing East. Through how many degrees does he rotate to end up facing South-West if he rotates **clockwise**?

Answer_____

(2)

12. A ruler is marked as below:



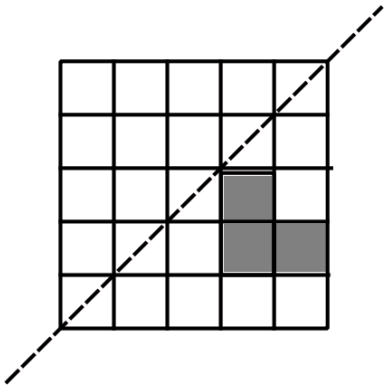
(a) What is the value of the marker at A? Express your answer as a fraction?

Answer_____

(b) Write the value of the marker at B as a decimal:

Answer_____ (3)

13.



(a) Reflect the shaded shape in the mirror line on the diagram above.

(b) If each small square has side length 1cm, what is the area of the shape before reflection?

Answer_____cm^2

(c) What is the perimeter of the shape before reflection?

Answer_____cm

(3)

14. A film begins and ends at the following times:

START: 16:33
FINISH: 19:09

How long did the film last?

Answer_____hours_____minutes

(2)

15. Complete the calculations below:

(a) 251.9 x 100 = ☐

(b) ☐ ÷ 1000 = 2.03

(2)

16. Write the missing sign (=, < or >) in the box.

$$17 \times 3 \square 25 \times 2$$

(1)

17. Which number between 60 and 80 is both a multiple of 3 and 8?

Answer_____

(2)

18. Emily thinks of her favourite number. She multiplies it by by 2, subtracts 5 and gets 17.

What is Emily's favourite number?

Answer_____

(2)

19. (a) Write $\frac{3}{5}$ as a decimal.

Answer_____

(b) Write 0.85 as a fraction in lowest terms.

Answer_____

(c) What is $\frac{8}{24}$ as a fraction in lowest terms?

Answer_____

(d) Which is larger:

$\frac{8}{24}$ or $\frac{1}{4}$?

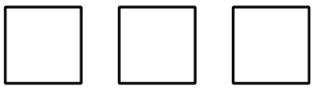
Answer_____ (4)

20. Cyrus has five number cards:

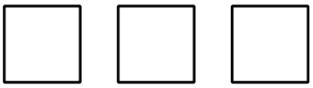
He picks three cards to form a 3-digit number.

What cards could be pick to find:

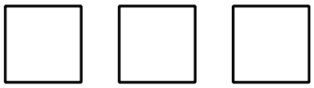
(a) An even number?



(b) An odd number?

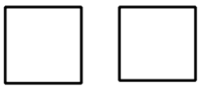


(c) A number divisible by 5?

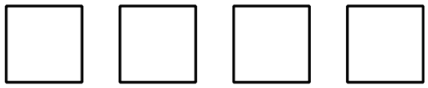


His friend, Kevin, then asks him to choose the following from the five numbers:

(d) A two-digit prime number:

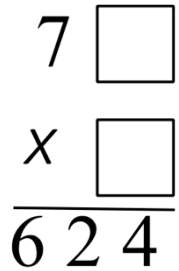


(e) A four-digit number divisible by 4:



(5)

21. Find the missing digits to make the calculation correct:



(2)

22. Mrs Walters asked all the children in Year 6 if they play tennis. The table below shows some of the results.

	Play tennis	**Do not play tennis**	**Total**
Class 6A	14		20
Class 6B		8	
Total		14	44

(a) How many children are there in class 6A?

Answer_____

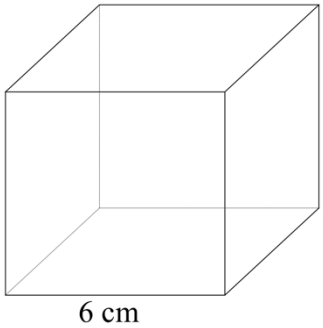
(b) Complete the table.

(c) What fraction of the children who **don't** play tennis are in class 6B?

Answer_____

(6)

23. Here is a cube of side 6 cm.



Complete each sentence by writing the correct number in the space provided.

(a) A cube has _____ vertices.

(b) The volume of the cube shown is _____ cm^3.

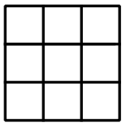
(c) Multiplying the number of faces by the number of edges gives a product of _____.

(d) A cuboid has the same volume as the cube shown. What could its length, width and height be?

Answer_____, _____ and _____

(5)

24. Shade $\frac{2}{3}$ of this shape.



(1)

25. Joanna and Suzanne set their watches to sound the alarm at 6.15am. Joannna's alarm then sounds every 8 minutes. Suzanne's alarm then sounds every five minutes.

At what time will the alarms next chime at the same time?

Answer_____

(2)

26. 125 x 250 = 31250

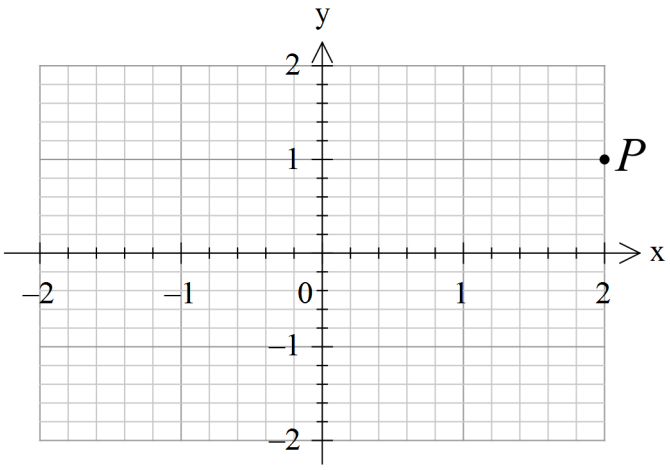
Use this calculation to work out:

(a) 1.25 x 250 = _____

(b) 31250 ÷ 250 = _____

(c) 1250 x 2.5 = _____ (3)

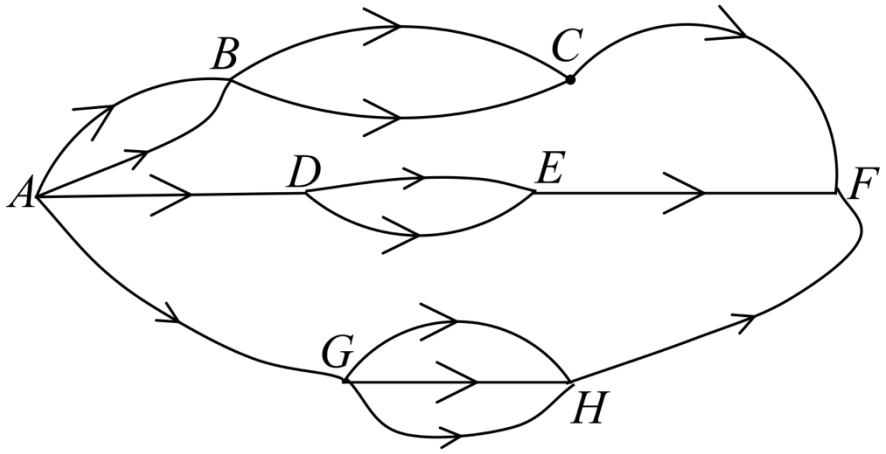
27.



Write down the coordinates of P: (_____, _____)

(1)

28.



Only going from left to right in the direction of the arrows,

(a) How many routes are there from A to C?

Answer_____

(b) How many routes are there from A to E?

Answer_____

(c) How many routes are there from A to H?

Answer_____

(d) How many routes are there in total from A to F?

Answer_____

(4)

29. Four years ago, the combined age of three children was 24 years.

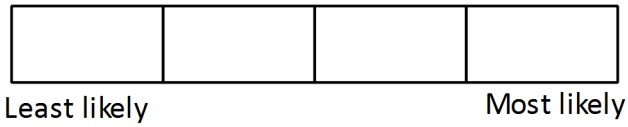
What will their combined age be in two years' time?

Answer_____

(2)

30. Arrange the letters for each of these events in order of likelihood, starting with the *least* likely.

A Rolling two dice and getting two sixes;
B That a person chosen at random was born on a Friday;
C Rolling a dice and getting a three;
D The last digit of a randomly chosen telephone number is *not* 4.



(4)

31. Three pet rabbits cost £19.70.
The second rabbit costs £2 more than the first.
The third rabbit costs 80p less than the second.
What is the cost of the first rabbit?

Answer£____:_____

(3)

32. In the table below, each of the letters has a different value. Use the sum of each row and column (shown) to find the value of each letter.

A	*B*	*C*	*B*	99
C	*B*	*B*	*A*	99
A	*C*	*A*	*C*	154
B	*A*	*C*	*B*	99
142	99	*D*	99	

A = _____; *B* = _____; *C* = _____; *D* = _____

(4)

33. A mathematical operation, denoted by the symbol ◊, is defined such that: $a \lozenge b = 3a - 2b$.

(a) What is the value of $5 \lozenge 2$?

Answer_____

(b) Solve the equation:

$$y \lozenge 6 = 15$$

y = _____

(3)

END OF PAPER

THE CEDARS
SCHOOL

11+ Entrance Examination

MATHEMATICS

Time allowed: 45 minutes
Answer all questions in the spaces provided.
Calculators may not be used.

FIRST NAME_____ SURNAME_____

DATE OF BIRTH:_____

1. 4449 + 3657

Answer_____

(2)

2. 3281 – 1872

Answer_____

(2)

3. 987 x 16

Answer_____

(2)

4. 60631 ÷ 7

Answer_____

(2)

5. Write down the number which is 7 less than seven thousand and two.

Answer_____

(2)

6 Fill in the missing numbers to make the sum correct:

$$\begin{array}{r} \square\,8\,4 \\ +\,2\,\square\,8 \\ \hline 7\,3\,2 \end{array}$$

(2)

7 There are 32 pupils in George's class. Three eighths of them have school lunch. How many pupils do **not** have school lunch?

Answer_____

(2)

8 A packet of crisps costs 54p. How many can Maria buy for £5?

Answer_____

(2)

9 Fill in the missing numbers in each sequence:

(a) $2\,,\quad 4\,,\quad 8\,,\quad 16\,,\quad \_\_\_\_\_\,,\ 64\,,\ \_\_\_\_\_$

(b) $-12\,,\ -6\,,\quad 0\,,\quad 6\,,\quad \_\_\_\_\_\,,\ 18\,,\ \_\_\_\_\_$

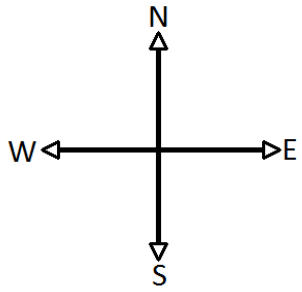
(c) $\frac{1}{2}\,,\ 1\frac{3}{4}\,,\quad 3\,,\quad 4\frac{1}{4},\quad \_\_\_\_\_\,,\ 6\frac{3}{4},\ \_\_\_\_\_$

(6)

10 Joel pays £144 for three nights' accommodation in a local Bed and Breakfast. How much would it cost him to stay there for a week?

Answer_____ (2)

11



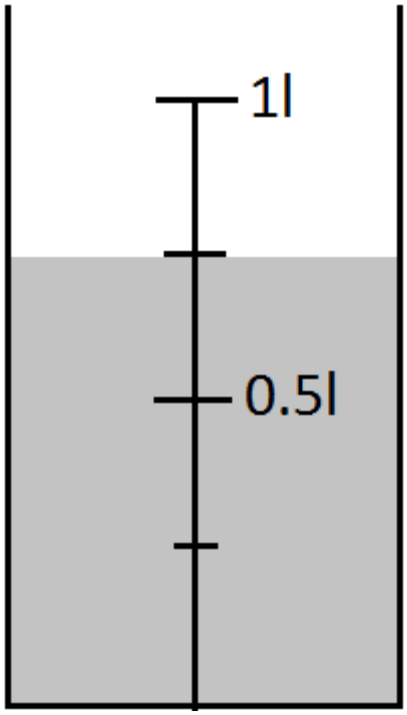
A man is standing facing North. If he rotates 270 clockwise, which direction is he now facing?

Answer_____

(2)

12

There is some coloured water in the jar.

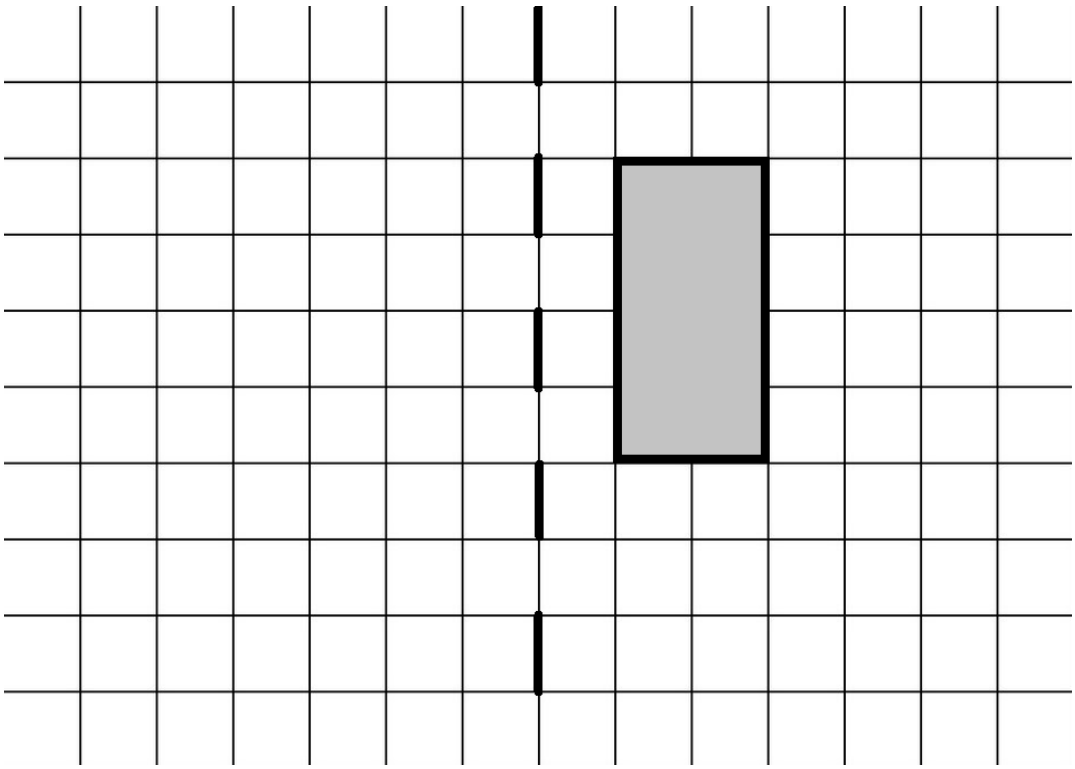


How much **more** water is needed to make 1 litre? **Give your answer in millilitres**.

Answer_____

(2)

13 (a) Reflect the shape in the mirror line:



(b) If each square has an area of 1cm, what is the area of the shape?

Answer_____

(c) What is the perimeter of the shape?

Answer_____ (3)

14 A video recording started and finished at the following times:

START: 13:47

FINISH: 15:24

For how long was the video recording?

Hours:_____ Minutes:_____

(2)

15 Two teachers went on a sponsored walk from Caterham to Croydon. One of them gave up 4km after he had passed the half-way check-point. He was then 2.3km from Croydon. How far apart are the towns?

Answer_____

(3)

16 Write a number in each box to complete the statements:

a) $13.8 \times 10000 =$ ☐

b) ☐ $\div 100 = 5.6$

(2)

17 Which number between 50 and 65 is both a multiple of 2 and 7?

Answer_____

(2)

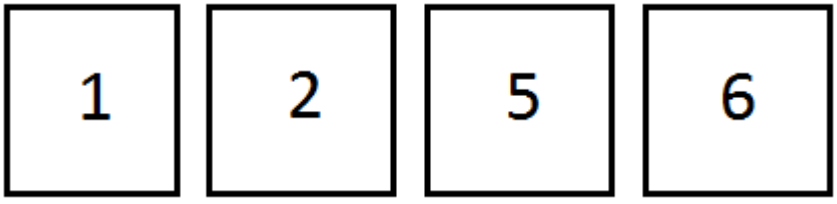
18 Hector thinks of his favourite number. He multiplies his favourite number by 3, adds 8 and gets 62.

What is Hector's favourite number?

Answer_____

(2)

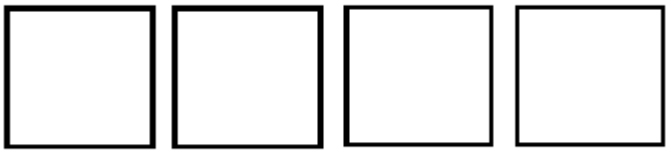
19 Geraldine has four number cards:



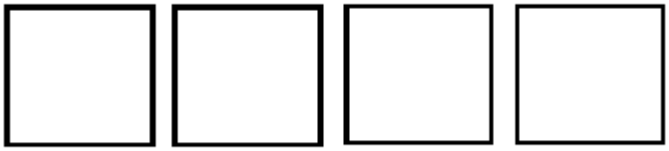
She uses all four numbers.

What order does she place the cards to pick:

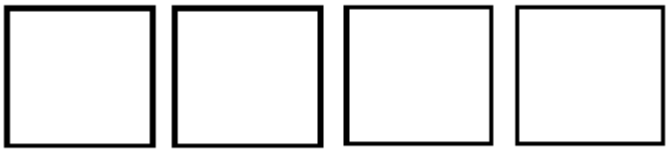
(a) The biggest number possible?



(b) The smallest even number possible?

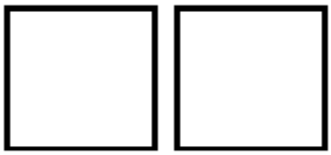


(c) A number divisible by 7?



Her friend, Teresa, challenges her to pick:

(d) A two-digit square number:



(e) A three-digit cube number

(6)

20 Miss Hendricks asked all the children in Year 6 if they walk to school.

The table below shows some of the results:

	Walk	Do Not Walk	Total
Class 6 A		9	
Class 6 Alpha			22

Total	33		48

(a) How many children are there in class 6A?

Answer_____

(b) Complete the table.

(4)

21 (a) Write $\frac{2}{5}$ as a decimal.

Answer_____

(b) Write 0.75 as a fraction in lowest terms.

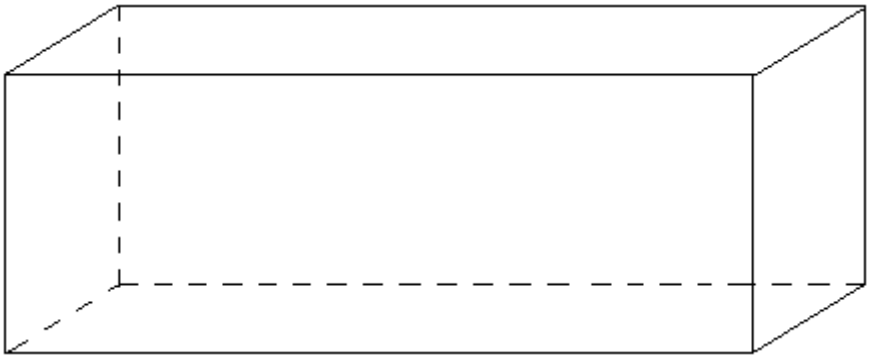
Answer_____

(c) What is $\frac{12}{40}$ as a percentage?

Answer_____

(4)

22 Here is a cuboid.



(a) Complete each sentence by writing the correct number in the gap.

(i) A cuboid has _____ faces.

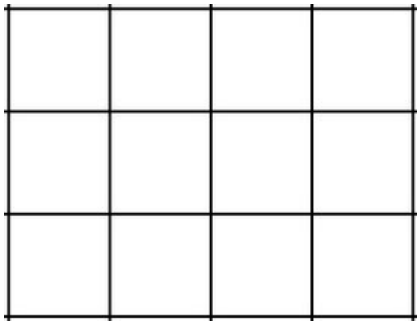
(ii) A cuboid has _____ edges.

(iii) A cuboid has _____ vertices. (5)

(b) If the length of the cuboid is 9cm, its width is 3cm and its height is 2cm, calculate the volume of the cube.

Answer_____cm^3

23 Shade $\frac{2}{3}$ of this shape



(1)

24 Joe and Tom set their alarm clocks to sound at 7:45am.
Both alarms sound at 7:45am.
Joe's alarm then sounds every 6 minutes.
Tom's alarm then sounds every 15 minutes.

At what time will both alarms next sound together?

Answer_____

(3)

25

$82 \times 600 = 49200$

Use this calculation to work out:

a) 0.82×600

Answer_____

b) $49200 \div 0.082$

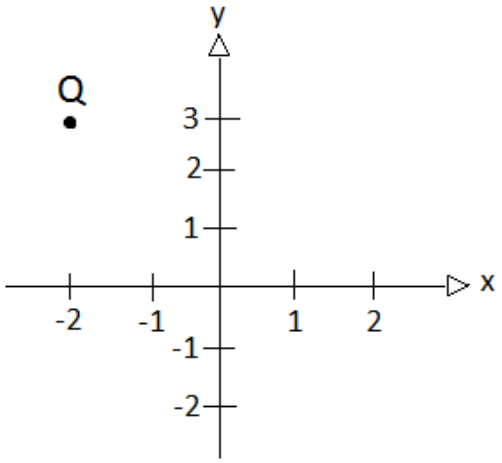
Answer_____

c) 8.2×0.6

Answer_____

(3)

26 State the coordinates of the point Q



Answer (_____,_____)

(1)

27 It takes two workmen 8 hours to do a job. One of them is lazy and one is hard-working.

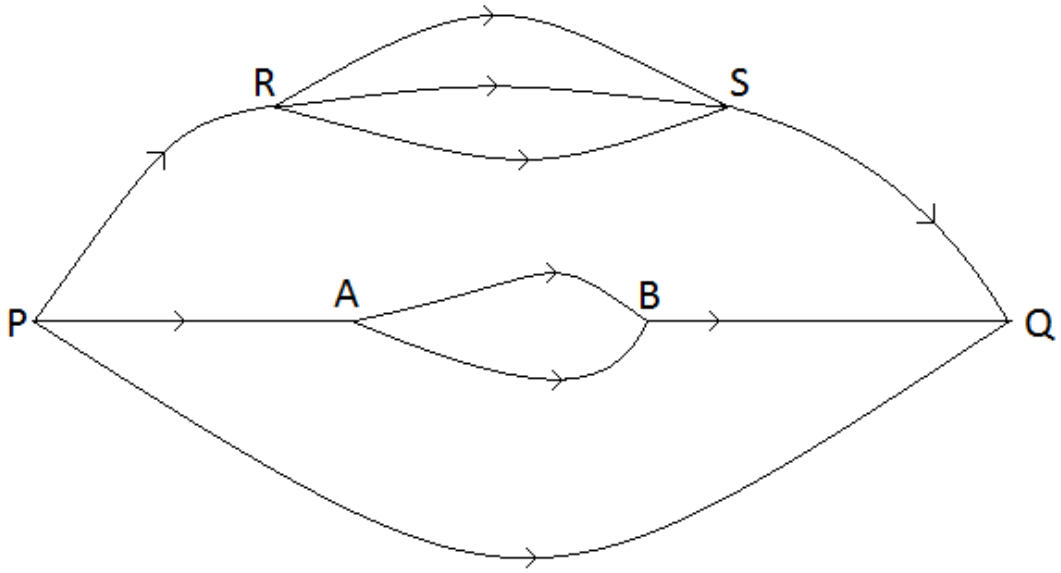
The hard-working labourer could carry out the job in 12 hours on his own.

How many hours would it take the lazy one to do the job on his own?

Answer_____

(3)

28 How many routes are there in total from P to Q? (You can only go in the direction indicated by the arrows).



Answer_____

(3)

29 Find the missing digit to make the calculation correct:

$$\begin{array}{r} 5\,A \\ \times\ \ A \\ \hline 3\,9\,9 \\ \hline \end{array}$$

Answer_____ (2)

30 Arrange the letters for each of these events in order, **starting from the left with the least likely:**

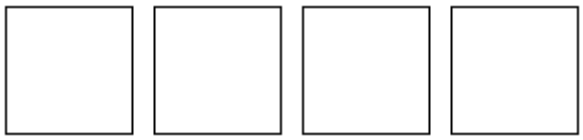
A – Rolling a die and getting a prime number

B – Rolling two dice and getting a total of 11

C – The next person to walk through the door was born on a Wednesday

D – Getting two tails from spinning a coin twice

Answer:



(4)

31 Three ducks and two ducklings weigh 32kg. Four ducks and three ducklings weigh 44kg. All ducks weigh the same as each other and all ducklings weigh the same as each other.

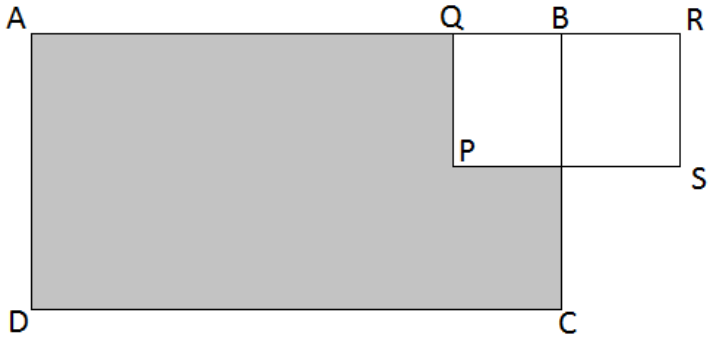
What is the weight of two ducks and one duckling?

Answer_____

(3)

32 Two rectangles ABCD and PQRS are shown below:

Diagram NOT to scale



AD=3cm
AB=5cm
PQ=2cm
PS=2cm
BR=1cm

Calculate the shaded area.

Answer_____

(2)

33 A mathematical operation, denoted by the symbol Ω, is defined such that: $a \ \Omega \ b = 4a + 2b$

(a) What is the value of $2 \ \Omega \ 7$?

Answer_____

(b) Solve the equation to find x :

$$x \ \Omega \ 6 = 32$$

Answer_____

(4)

END OF PAPER