

1. Area [ID:N904]

Area

The diagram on the right shows a floor plan of a bedroom in a house. The measurements shown are in millimetres. Estimate the area of the bedroom in square metres.

m²



Acceptable numeric values Between 22 and 25

2. Tables [ID:N905]

Tables

The photo on the right shows six tables placed together to make a hexagon. Each table is shaped as a trapezium as shown below (not drawn to scale). What is the angle x in the diagram?

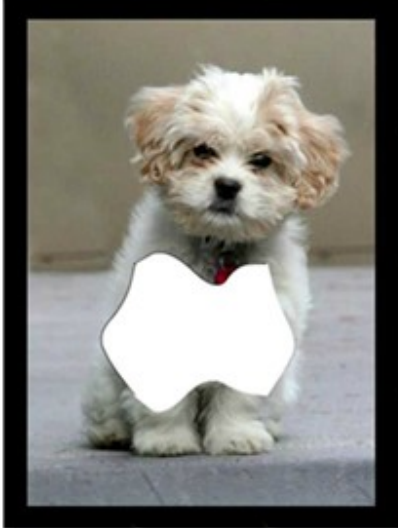


degrees



Acceptable numeric values Equal to 60

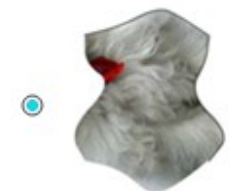
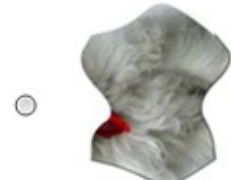
3. Jigsaw Puzzle [ID:N907]



Jigsaw Puzzle

Which of the following is the missing piece?
(you may need to rotate the piece to fit it)

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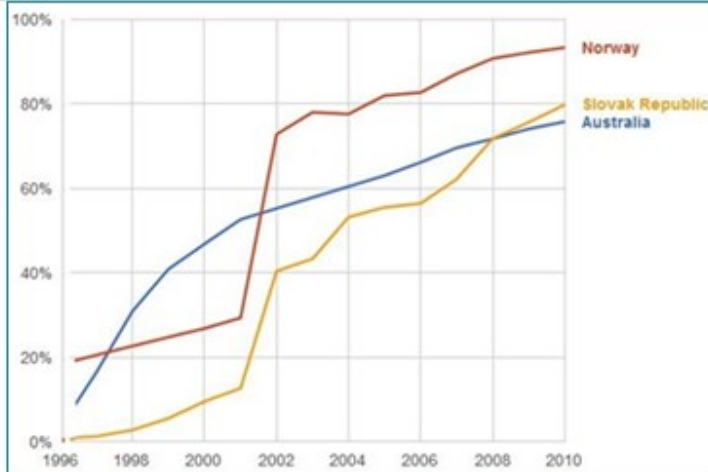


4. Internet Usage [ID:N911]

Internet Usage

The graph on the right shows internet users as percentage of population for three countries, between 1996 and 2010 (Public data from Google).

Between 2002 and 2010, the rate of increase in Slovak Republic is about



Year	Norway (%)	Slovak Republic (%)	Australia (%)
1996	20	0	10
1998	22	2	35
2000	25	5	45
2002	30	10	55
2004	75	55	60
2006	85	65	65
2008	90	75	70
2010	95	80	75

☒ twice the rate in Australia

☐ 3/4 the rate in Australia

☐ the same rate as in Australia

☐ half the rate in Australia

5. Grand Prix [ID:N914]

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Grand Prix

In a Formula 1 race, drivers complete a number of laps with a total distance adding to about 300 km.

It takes about $1\frac{1}{2}$ hours to complete the race.

Estimate the average speed.

Average speed = km / h

Acceptable numeric valuesBetween 180 and 220

6. Liechtenstein [ID:N915]

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Liechtenstein

Liechtenstein is one of the smallest countries in the world. The total area of Liechtenstein is about 160 km^2 . The distance from north to south is about 24 km. See map. A plane flies across Liechtenstein from west to east at a cruising speed of 600 km/h. Estimate the time taken for the plane to fly across Liechtenstein (from the Switzerland border to Austrian border) .



- ☒ 1 minute
- ☐ 6 minutes
- ☐ 16 minutes
- ☐ 30 minutes

7. Wagon Wheel [ID:N917]

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A close-up photograph of a wooden wagon wheel. The wheel has a light-colored wooden rim and spokes, with a dark blue or black tire. The hub is also wooden with a green-painted center. The wheel is resting on a grey surface.

Wagon Wheel

A wagon wheel has a diameter of 1m.

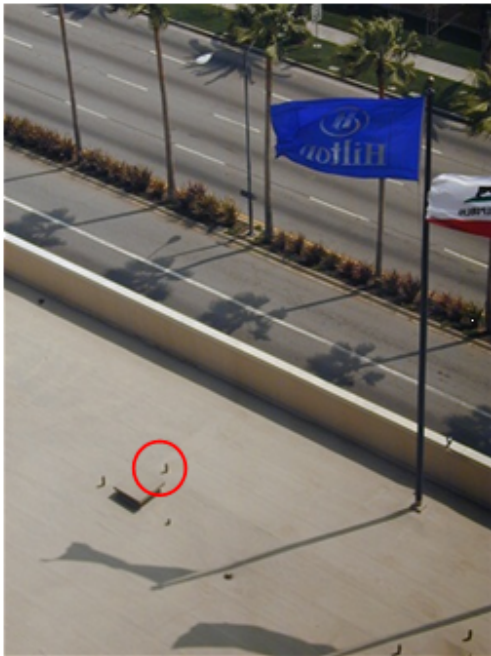
For each complete turn of the wheel, how many metres does the wagon move?

metres

Acceptable numeric values Between 3 and 3.2

8. Height Estimation [ID:N919]

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A photograph of a street scene. In the foreground, there is a concrete sidewalk. A flagpole stands on the sidewalk, casting a shadow. A small pole with a red circle around its base is also visible. In the background, there is a road with a blue flag hanging from a pole. The flag has the Hilton logo on it.

Height Estimation

The ratio of the shadow of a small pole to its real height (see red circle in picture) is 3:5.

To estimate the height of the Hilton flag pole, we measure the length of its shadow.

If the length of the shadow is 4.5 metres, what is the length of the flag pole?

metres

Acceptable numeric values Between 7 and 8

9. Science Tests© [ID:N970]

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Science Tests©

In Mei Lin's school, her science teacher gives tests that are marked out of 100. Mei Lin has an average of 60 marks on her first four Science tests. On the fifth test she got 80 marks.

What is the average of Mei Lin's marks in Science after all five tests?

Average:

© Source from PISA maths test

Acceptable numeric values

Equal to 64

10. Time Difference [ID:N922]

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Time Difference

The "world clocks" in the foyer of a hotel are shown below.



Washington (pm) Sydney (am) Tokyo (am) Berlin (am)

When it's 10 o'clock at night in Berlin, what time is it in Sydney? o'clock in the morning

Acceptable numeric values

Equal to 7

11. Probability [ID:N924]

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Probability

There are 100 Scrabble® letter tiles in the Scrabble game. See picture below.

The letter tiles are placed in a bag. One letter is drawn from the bag at random.

What is the probability that an "A" is drawn?

☐ 1 / 9
☐ 1 / 100
☒ 9 / 100
☐ 9 / 91

Source: Wikimedia Commons

12. Equation [ID:N927]

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Equation

Which equation below is illustrated by the above diagram?

☒ $(a+b)^2 = a^2 + 2ab + b^2$
☐ $(a+b)^2 = a^2 + b^2$
☐ $a \times b + a \times b = a^2 + 2ab + b^2$
☐ $a^2 + b^2 = 2ab$

Source: Wikimedia Commons

13. Choices© [ID:N967]

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Choices©

In a pizza restaurant, you can get a basic pizza with two toppings: cheese and tomato. You can also make up your own pizza with extra toppings. You can choose from four different extra toppings: olives, ham, mushrooms and salami.

Ross wants to order a pizza with two different extra toppings.

How many different combinations can Ross choose from?

Answer: combinations

© Source from PISA maths test

Acceptable numeric values

Equal to 6

14. Olive Oil [ID:N930]

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Olive Oil



5 kg of olives are needed to make 1 litre of olive oil.

A picker can pick 6 kg of olives per hour.

How long does it take for the picker to pick enough olives to make 1 litre of olive oil?
(calculate time in minutes)



minutes

Acceptable numeric values

Equal to 50

15. Shapes [ID:N935]

Shapes

Ten shapes make up a rectangle as shown on the right.

Which of the following pairs of pieces can be swapped without moving other pieces, and maintaining the shape of the rectangle? The pieces can be rotated, but not flipped over.

(There may be more than one pair)

- ☐ 1 and 9
- ☒ 5 and 6
- ☐ 1 and 10
- ☐ 2 and 10
- ☐ 2 and 5



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