

YEAR EIGHT Mathex 2014

Team

Question 1

The kitchen is searched for an after school snack.

<u>Bread</u>	<u>Protein Filling</u>	<u>Vegetable Filling</u>
White	Cheese	Tomato
Wholemeal	Chicken	Lettuce
	Salami	

How many different sandwich combinations (using a Bread, a Protein filling and Vegetable filling) are there?

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Question 2

Claire and Angela are top goal scorers in their netball teams. Below are the goals scored in the games that they played.

Who has the highest median number of goals scored and what was that median score?

Claire		Angela
4 4 3 0	2	0 5 6
8 7 6	1	5 7 9 9
9 9	0	8 9 9

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Question 3

Two dice are rolled and the results are added.

What is the probability of getting a prime number?

Question 4

At a local restaurant, the meals for 3 people have a mean price of \$23.75. A fourth person has a meal worth \$21.59.

What is the new mean price for the 4 meals to the nearest cent?

Question 5

What is the ninth row in the pattern:

Row 1; $1 \times 3 = 4 - 1$

Row 2; $2 \times 4 = 9 - 1$

Row 3; $3 \times 5 = 16 - 1$

Row 4; $4 \times 6 = 25 - 1$

Question 6

$$D \times E = 48$$

$$D \div E = 1/3$$

$$E - D = 8$$

What are the values of D and E?

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Question 7

Put mathematical symbols between these digits to make the equation correct.

You can use \times , $+$, $-$, \div , $($ or $)$

$$7 \ 6 \ 4 \ 9 = 81$$

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Question 8

A Bus Company charges \$128 for hireage of the bus plus 60c per kilometre travelled.

How many kilometres could you hire the bus for if you had a budget of \$380.

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Question 9

In Bip-Bop Land, there is an unusual way of counting:

3 Bips = 1 Beep

5 Beeps = 2 Bops

and 6 Bops = 1 Boop

How many Bips in 2 Boops?

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Question 10

A tin contains a mixture of red and blue buttons.

There are twice as many red buttons as blue buttons.

Then 12 more blue buttons are put in. Now there are twice as many blue buttons as red buttons.

How many red buttons are there?

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Question 11

A ladybird moves on the ground at 180mm per minute.

What is its speed in km per hour?

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Question 12

I am a prime number

The sum of my digits is 10

I am less than 50

What number am I?

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Question 13

“The man in the middle is
Hal.”

“I’m Gene.”

“The man in the middle is
Bill”

If Hal always tells the truth, but Gene and Bill never do, then put the names of the people correctly in the boxes.

YEAR EIGHT Mathex 2011

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Question 14

Sally is on her way to Auckland from Sydney and the only flight she could get was at 11.46pm on Saturday 5th April. Daylight savings occurs in New Zealand (but not in Australia) at midnight that night. The time difference between Auckland and Sydney is two hours. If the flight takes three and half hours what time did she land in Auckland?

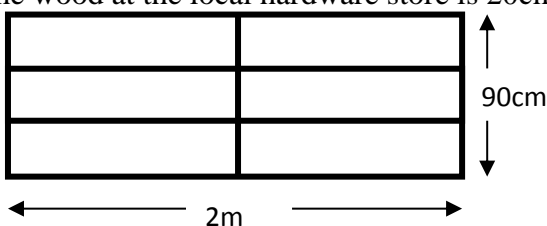
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Question 15

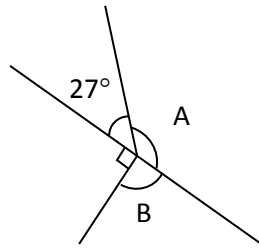
Jim wants to build a bookshelf with three shelves. It has to be 2m long, 40 cm deep and 90 cm tall to fit in the gap in his hallway. Because it is so long he will need to put wooden supports in the middle of each shelf.

The wood at the local hardware store is 20cm wide and 2.5m long. How many planks will he need?



Question 16

Find Angles A and B.



Question 17

A squirrel had a secret store of 100 nuts and lots of hungry cousins. For a week, every day he gave away some of his nuts and then ate one himself. On day 1, he gave away 6 nuts and then ate one himself. On day 2, he gave away $\frac{2}{3}$ of his nuts and then ate one himself. On day 3, he gave away $\frac{1}{6}$ of his nuts and then ate one himself. On day 4, he gave away $\frac{1}{8}$ of his nuts and then ate one himself. On day 5, he gave away $\frac{1}{5}$ of his nuts and then ate one himself. On day 6, he gave away $\frac{2}{3}$ of his nuts and then ate one himself. On day 7, he gave away $\frac{1}{2}$ of his nuts and then ate one himself.

How many nuts did he end up with?

Question 18

How many centimetres cubed are the in 2 cubic meters?

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Question 19

Tommy's Grandad works out that his age and Tommy's age added together make 77. If Grandad was 55 when Tommy was born, how old is Tommy?

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Question 20

A ship leaves point A and travels 30 km due West to point B. It then travels due North for 30 kms to point C. Give the compass direction of A from C.

Year 8 Mathex 2014 ANSWERS

20. SE

19. 11

18. 8,000,000 cm²

17. 1

16. Angle A = 153⁰; Angle B = 90⁰

15. 11

14. 4.16am

13. Gene Bill Hal

12. 37

11. 0.0108 km/hr

10. 8 red buttons

9. 30 Bips

8. 420 km

7. $(7 + 6 - 4) \times 9 = 81$

6. D = 4 E = 12

5. $9 \times 11 = 100 - 1$

4. $92.84 \div 4 = \$23.21$

3. 14/36 or 7/18

2. Angela with 18 goals

1. 12