

**Fiji Mathematics Team Competition –Zones**  
**Class 8/ Year 8 – 2014**

Y8/1 What is the sum of the sizes of the interior angles of a polygon with 53 sides?

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Y8/2 Calculate the total surface area of a cube with side 0.3 m?

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Y8/3 Find the circumference of a circle inscribed inside a square with a side of 20 meters. Use  $\pi = \frac{22}{7}$

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Y8/4 If the radius of a cylindrical container is doubled, how do you change the height of the container so that the volume will stay the same?

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Y8/5 The semicircle of area  $77 \text{ cm}^2$  is inscribed /drawn inside a rectangle. The diameter of the semicircle coincides with the length of the rectangle. Find the area of the rectangle. Use  $\pi = \frac{22}{7}$

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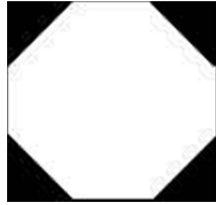
Y8/6 At 11:00 a.m, Ram started driving along a highway at constant speed of 50 kilometres per hour. A quarter of an hour later, James started driving along the same highway in the same direction as John at the constant speed of 65 kilometres per hour. At what time will James catch up with Ram?

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Y8/7 Evaluate  $5.10^3 + 4.10^2 + 7.10 + 1 = ?$

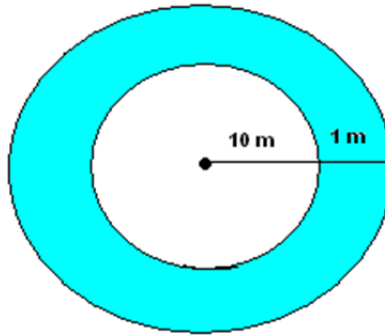
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Y8/8 Every side of a square is separated on 3 equal parts. The area of the square is  $36\text{cm}^2$ . The black parts are removed from the square. What is the area of the remaining white part of the square?



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Y8/9 A circular garden with a diameter of 10 meters is surrounded by a walkway of width 1 meter. What is the area of the walkway (shaded part). Use  $\pi = 3.14$



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Y8/10 Jina needs \$60 for a class trip. She has \$32. She can earn \$4 an hour mowing lawns. How many hours must Joan work to have the money she needs? Write the equation which shows this relationship.

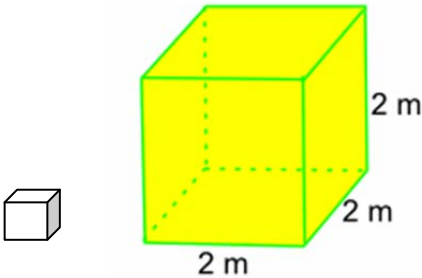
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Y8/11 The chart below describes the speed of four printers. Which of the printer is the fastest and what is its printing speed?

Desktop printers. Printer	Description
Robo print	Prints 2 pages per second
Voltronn	Prints 1 page every 2 seconds
Vantek Plus	Prints 160 pages in 2 minutes
DLS Pro	Prints 100 pages per minute

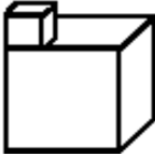
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Y8/12 The diagram shows a box in the shape of a cube of lengths 2 m. If the box is to be packed with cubes of length 20 cm, how many smaller cubes will fit in the base of the box?



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Y8/13 The solid in the picture is created from two cubes. The small cube with edges 1 cm long is placed on the top of a bigger cube with edges 4 cm long. What is the surface area of this solid?



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Y8/14 Use distributive property of multiplication over subtraction to write a simple equation for the expression:  $3x - 3y$

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Y8/15 Find the width of a rectangle whose length is  $4\frac{1}{2}$  cm and area is  $13\frac{1}{2}$  cm<sup>2</sup> ?

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Y8/16 A soap bar is 50cm long, 10cm wide and 8 cm high. If Mrs. Jackie cuts off a 7cm piece to do her washing, what volume of soap is left?

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Y8/17 Calculate the total volume of 1 cube, 2 sticks and 4 flats from the deines block?

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Y8/18 The Soccer Shop is having a sale. Everything is 20% off. Shannon bought a 2 pairs of goalie gloves and a shin guards. The original prices were \$30 for the gloves and \$15 for the shin guards. How much did Shannon save all together?

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Y8/19 If a bag of 30 sweets weighs 20g, how many sweets would weigh 1kg?

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Y8/20 Ben, Jen and Ken sold 150 show tickets altogether. Ben sold three times as many tickets as Ken and Jen sold 10 more tickets than Ken. How many tickets did Jen sell?

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Tie Breaker:

Y8/21 Jinny saves \$3 on Monday. Each day after that she saves twice as much as she saved the day before. If this pattern continues, how much would she have saved on Sunday ?

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Y8/22 The circumference of a circular track is 47.1 metres. What is the diameter of the track? Use 3.14 as an approximation for  $\pi$ .

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