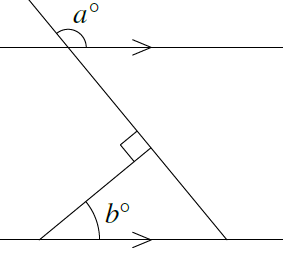
**Fiji Mathematics Team Competition – Zone**

**YEAR 8 – 2017**

Y8/1 Calculate the value of .

Y8/2 When these points are plotted on a graph, which one is not on the same straight line as the others?

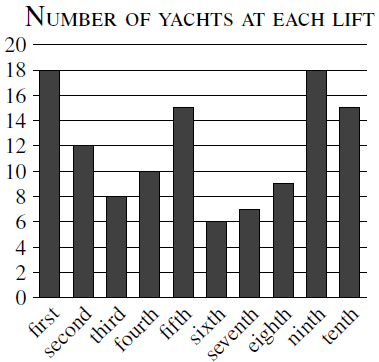
Y8/3 In the diagram, a = 132. What is the value of b?



Y8/4 I think of a positive number, add 7, divide by 3, subtract 3 and square the result. The final answer is 16. What number did I think of ?

Y8/5 At the Polynumeral Theme Park adult tickets are $8.90 and a child’s ticket (aged 5– 13) is $6.50. Children under 5 years are free. A family ticket (maximum of 2 adults and 3 children 5-13) is only $30. What will be the lowest price for 3 adults and 4 12-year-old children?

Y8/6 The bridge over the River Pi lifts up to let yachts out of the marina. Jack recorded the number of yachts leaving at each lift. He made a mistake in the seventh value; he should have recorded another 2 yachts. What is the mean number of yachts per lift?



Y8/7 A tap is dripping constantly at 12 ml per 30 seconds. This continues until detected three hours later and stopped. How much water in liters was wasted in the three hours?

Y8/8 Rajnesh has two red flags and one white flag. How many different ways Rajnesh can

hang at least two flags vertically on a flagpole?

Y8/9 The coordinates of the vertices of a triangle are A(2,3), B(5,4) and C(6,1).

The triangle is translated so that the image of A is at B. What are the coordinates of the image of C?

Y8/10 Seven packs of *Fish Fries* and four packs of *French Fries* cost $78.00. *French Fries* costs $3.00 more per pack than *Fish Fries*. In dollars, how much does a pack of *French Fries* cost?

Y8/11 There are 280 employees in a factory. 4 out of every 7 employees are man. How many are not man?

Y8/12 A box containing 5 oranges weighs 2 kilograms. The same box with 10 oranges in it weighs 3.5 kilograms. How much does the empty box weigh? (Assume all oranges weigh the same.)

Y8/13 If 6 valentines and a sticker cost $3.20, and a sticker costs 20 cents, how much will 24 valentines and 2 stickers cost, in dollars?

Y8/14 Fifty people were stopped in the street and asked if they watched TV or listened to the radio that day. Eight said they did neither, forty-one watched TV and six listened to the radio. How many watched TV and also listened to the radio?

Y8/15 George is allowed 25% extra time for each examination paper. Geography is usually 1 hour 20 minutes and starts at 10:30, and History starts at 13:15. How much time, in minutes, will George have between his exams?

Y8/16 One of the months in a particular year has five Wednesdays, and the third Saturday is the 19th. What day of the month is the last Wednesday?

Y8/17 Jam maker is making jam, but finds she only has 600 g of sugar, instead of the one kilogram that the recipe needs for 1.25 kg of guavas. What weight of guavas, in kilograms, must she use for the reduced amount of jam?

Y8/18 Chairs are stored on the floor either singly in a square space of side 40 cm or as a stack of 4 chairs requiring a square space of side 50 cm. How many chairs can be stored in a space 320 cm x 140 cm?

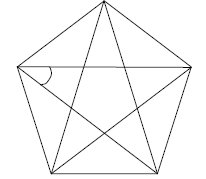
Y8/19 Khan works in a bottle shop and displays his cans in triangular based pyramids, so that there is one can on the top, then three on the second layer down, then six, then ten etc. How many cans does he need to make a pyramid with eight layers?

Y8/20 Newton’s mother has a large tin of sweets for her grandchildren. On the first day they eat 25% of the sweets, on the second day they eat ½ of what is left, on the third day they eat of the remaining sweets and 18 are left. How many were in the tin at the start?

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Tie breaker

Y8/21 Find the size of the angle marked in the regular pentagon below



Y8/22 Simplify