Schloss Krumbach
International School

GRADE 9

ENTRANCE MATHEMATICS TEST

Instructions:

- No calculator is allowed, all working must be done on extra papers – PLEASE DO NOT WRITE ON THIS INSTRUCTION SHEET.
- Points are being awarded also for the method, not only the final answer, so it is advised to show all working.
- Questions can be done in any order and each has the same amount of points, though some are easier than the others.
- The allocated time is 45 minutes

START OF THE TEST

Exe 1

4 apples and 5 bananas cost a total 8 Euro, whereas 2 apples and 6 bananas cost a total of 7.50 Euro.

a) Suppose there are x apples and y bananas. What two equations represents the facts given above?
b) Solve the two equations to find what is the cost of one apple and what is the cost of one banana.

Exe 2

A veteran car is purchased for $240 000 and each month, its price increased by $500 per month. The car was then solved after 2.5 years. Calculate the profit made and express it as a percentage of the cost price.

Exe 3

a) Solve for x

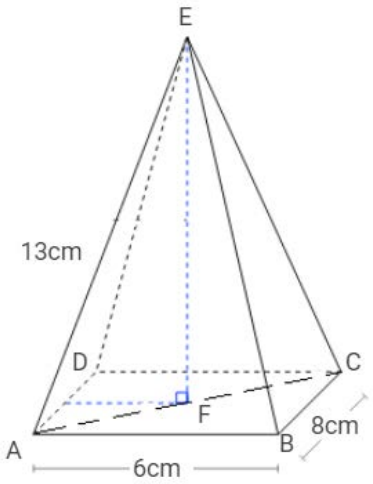
$$\frac{x-1}{2} - \frac{3x-5}{4} = 1\frac{1}{3}$$

b) At present, Phil is 8 years older than Bob. Of Phil was one year younger, his age would be double Bob´s present age. Find Phil´s and Bob´s age by solving an equation that represents the facts given.

Exe 4

For rectangular pyramid shown on the diagram, with side lengths AB = 6 cm, BC = 8 cm and AE = 13 cm, calculate using Pythagoras theorem:

a) the length of diagonal AC.
b) the length of AF.
c) the height, EF, of the pyramid.



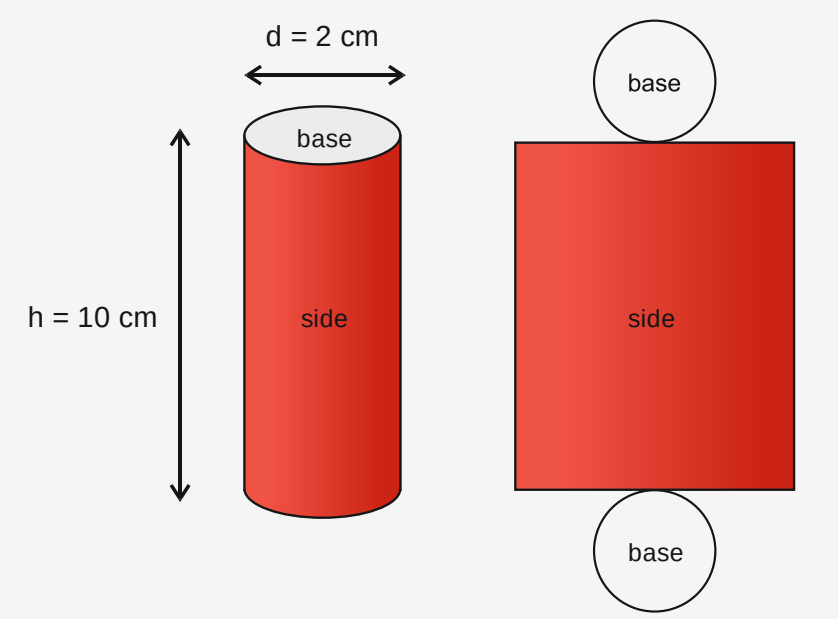
Exe 5

a) For the following data: 12, 15, 20, 24, 25, 30, find the mean, mode and median.
b) If a data with value *x* would be added to the data set above, the new mean would be 19. Find the value *x.*

Exe 6

The diagram shows a cylinder and its net. Calculate:

a) the surface area of the cylinder that consists of the two bases and the side.
b) the volume of the cylinder.



END OF THE TEST