



Schloss Krumbach
International School

GRADE 8

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

a) Arrange the numbers from the smallest to the largest:

$$\frac{9}{20}, \quad 5 \times 10^{-1}, \quad 60 \times 0.008, \quad \sqrt{0.36}$$

Exe 2

a) Sketch the given points in the set of coordinate axes (Cartesian plane)

$$A(0, 3), \quad B(4, 1), \quad C(2, -3),$$

b) Find the coordinates of point D, so that ABCD forms a square.

c) Find the coordinates of point E – the middle (center) of the square ABCD.

Exe 3

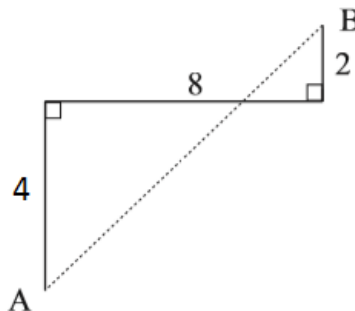
How long does it take a space rocket (in days) to travel 3.6×10^7 km if it travels by speed of 50 000 km/h?

Exe 4

An lottery win of \$650 000 is to be divided between three winners in the ratio 4:3:6. How much does each winner get?

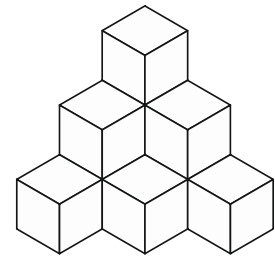
Exe 5

Using Pythagoras theorem, find the length of AB



Exe 6

- How many blocks (cubes) does the object shown consist of?
- If we would like to paint the whole object from all its sides (also from the bottom), how many square sides do we need to paint?



Exe 7

Consider the pattern



- Draw the next two figures.
- Copy and complete the following table:

<i>Figure number, n</i>	1	2	3	5	8	10
<i>Number of matches, M</i>	3					

- Predict the number of matches which will be needed for the 30th figure.
- Write a general rule for determining the number of matches (M) in the n th figure.

Exe 8

- When a number multiplied by 4 is subtracted from 20, the result is 5 more than the original number. Translate this into an equation and then find the unknown number.
- Side a of a triangle is twice the side b and side c is 2 more than side b . The perimeter of the triangle is 17. Translate this into an equation and then find the length of the three sides a, b, c .

END OF THE TEST
