



### Test 3

There are **7 questions** in this test. Give yourself **10 minutes** to answer them all.  
You may **not** use a calculator for this test.



1. What is the value of  $\frac{3}{8} \times \frac{4}{5}$ ? Circle your answer.

$\frac{7}{13}$

$\frac{15}{32}$

$\frac{3}{5}$

$\frac{3}{10}$

[1]

..... [2]

2. Circle the highest common factor of 66 and 84.

2

6

11

12

[1]

3. What is the value of  $4^3$ ?

..... [1]

4. Put the values below in order, from smallest to largest.

62%

$\frac{13}{20}$

0.625

$\frac{2}{3}$

..... [3]

5. At an airport, there were 324 people in one queue and 108 people in a different queue. Some people then left the longer queue to join the shorter queue to make both queues the same length. How many people left the longer queue?

6. What fraction of the hexagon on the right is shaded? Give your answer in its simplest form.



..... [2]

7. Assume a sand timer contains  $1.7 \times 10^6$  grains of sand. How many sand timers could you fill if you had  $3.4 \times 10^9$  grains of sand? Give your answer as an ordinary number.

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1.  $\frac{3}{8} \times \frac{4}{5} = \frac{12}{40} = \frac{3}{10}$  [1 mark]
2. 11 is not a factor of 84 and 12 is not a factor of 66, so you can rule out these options. 6 is a factor of both and it is higher than 2, so HCF = 6 [1 mark].
3.  $4^3 = 4 \times 4 \times 4 = 16 \times 4 = 64$  [1 mark]
4.  $62\% = 0.62$ ,  $\frac{13}{20} = 0.65$ ,  $\frac{2}{3} = 0.66\dots$   
So in order, the values are:  
 $62\%$ ,  $0.625$ ,  $\frac{13}{20}$ ,  $\frac{2}{3}$   
[1 mark for converting all the values to the same form, 1 mark for the correct order]
5.  $324 - 108 = 216$  [1 mark]  
 $216 \div 2 = 108$ , so 108 people left the longer queue to join the shorter one [1 mark].
6. Each big equilateral triangle is  $\frac{1}{6}$  of the hexagon. Each small equilateral triangle is  $\frac{1}{4}$  of the big equilateral triangle. So each small equilateral triangle is  $\frac{1}{6} \times \frac{1}{4} = \frac{1}{24}$  of the hexagon [1 mark].  
There are 3 small triangles shaded, so the fraction of the hexagon that is shaded is  $3 \times \frac{1}{24} = \frac{3}{24} = \frac{1}{8}$  [1 mark].
7.  $(3.4 \times 10^9) \div (1.7 \times 10^6)$   
 $= (3.4 \div 1.7) \times (10^9 \div 10^6)$   
 $= 2 \times 10^{9-6} = 2 \times 10^3 = 2000$   
[1 mark for dividing the number terms, 1 mark for dividing the powers of 10, 1 mark for the correct answer given as an ordinary number]