PERSE GIRLS SENIOR SCHOOL

MATHEMATICS

PRACTICE ENTRANCE PAPER 2

Entry to Year 9

TIME: 30 MINUTES

This question paper is based on the Key Stage 3 curriculum up to year 7. It is designed to give an indication of the type of questions that are set, but cannot be exhaustive.
Extension opportunities will be offered on the written paper and during the review with a member of staff.

Name_____

Instructions to candidates

Calculators are allowed.

Answer as many questions as you can. Do not worry if you cannot answer a question; go straight to the next one.

Write your answers in the spaces provided on the question paper.

Show **all your working** on this paper.

1. Calculate the following, showing all your working:

   a) 461 multiplied by 52

   b) 504 divided by 14

   a) _____

   b) _____

2. Evaluate:

   a) $49 + 18 \div 6 =$ _____

   b) $7 \times (8 - 4) =$ _____

   c) $-5 + -3 =$ _____

   d) $-8 \times -4 =$ _____

   e) $-8 - -6 =$ _____

   f) $25.61 \div -10 =$ _____

   g) $3^2 \times 2^3 =$ _____

   h) $1.4 \times 2000 =$ _____

3. Complete the following:

   a) 420 g = _____ kg

   b) 21.4 km = _____ m

4. Calculate the following, giving your answers in their simplest form.

   a) $\frac{2}{3} + \frac{3}{5}$

   b) $\frac{4}{7} \times 35$

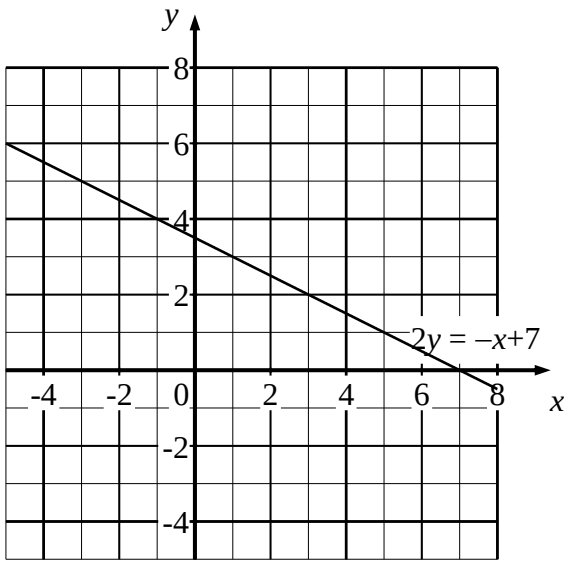
   c) $\frac{2}{3} \times 18$

   a) _____

   b) _____

   c) _____

5. The line with equation $2y = -x + 7$ has been drawn on the grid.



Complete the table below and draw the graph of $y = x + 2$ on the same grid.

x	-4	0	2
y		2	

Where do the two lines intersect?

Answer _____

6. Solve these equations.

a) $2m + 5 = 10$

$m =$ _____

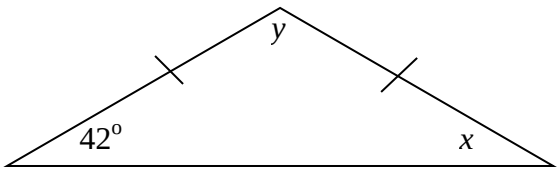
b) $2(3p + 2) = 19$

$p =$ _____

7. My train fare has increased from £16 to £20. By what percentage has it increased?

Answer = _____

8. Calculate the sizes of the missing angles.



x = _____

y = _____

9. Fill in the missing values in the following table.
You should simplify (cancel down) any answers which are fractions.

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
	0.04	
$\frac{7}{25}$		
		35%

10. Write down simplified expressions for:

a) the perimeter

b) the area of this rectangle.

a) Perimeter = _____

b) Area = _____

11. Calculate $\dfrac{30-3\times 2}{4+2\times 1}$

Answer = _____

12. Round the following as required:

a) 30 256 497 to the nearest ten thousand a) _____

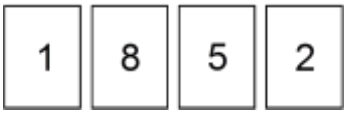
b) 0.58032 to 1 decimal place b) _____

13. If $p = 2$ *and* $q = 3$ calculate the value of the following

a) $2q + 4p$ = b) $3p^2q$ =

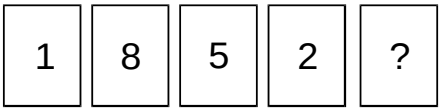
Answer a) _____ Answer b) _____

14. a) James has these four number cards:



The **mean** is 4.

James takes another card.

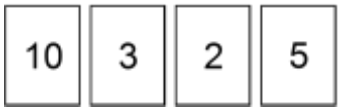


The mean of the **five** cards is still 4.

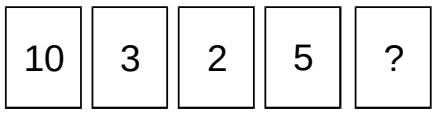
What number is on his new card?

_____

b) Tara has these four number cards:



She takes another card.

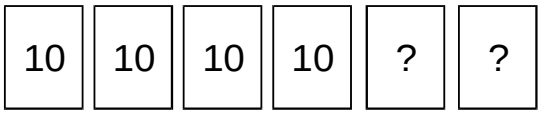


The mean goes **up** by **2**.

What number is on her new card?

_____

c) Ali has six cards



The **mean** of the six cards is **10**.

The **range** of the six cards is **4**.

What are the numbers on the other two cards?

_____and _____

The End