stephen perse foundation senior school

MATHEMATICS

YEAR 9 PRACTICE ENTRANCE TEST 2

TIME: 30 MINUTES

This question paper is designed to give an indication of the type of questions that are set, but cannot be exhaustive.

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.

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1. Calculate the following, showing all your working:

   a) 3461 multiplied by 52

   b) 4424 divided by 14

   a) _____

   b) _____

2. Evaluate:

   a) 49 + 18 ÷ 6 = _____

   b) 7 × (8 – 4) = _____

   c) -5 + -3 = _____

   d) -8 × -4 = _____

   e) -8 – -6 = _____

   f) 25.61 ÷ -10 = _____

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

   h) 1.4 × 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) $4\frac{1}{3} + 2\frac{3}{5}$

   b) $\frac{5}{12} \times \frac{9}{10}$

   c) $3\frac{3}{7} \div 1\frac{1}{5}$

   a) _____

   b) _____

   c) _____

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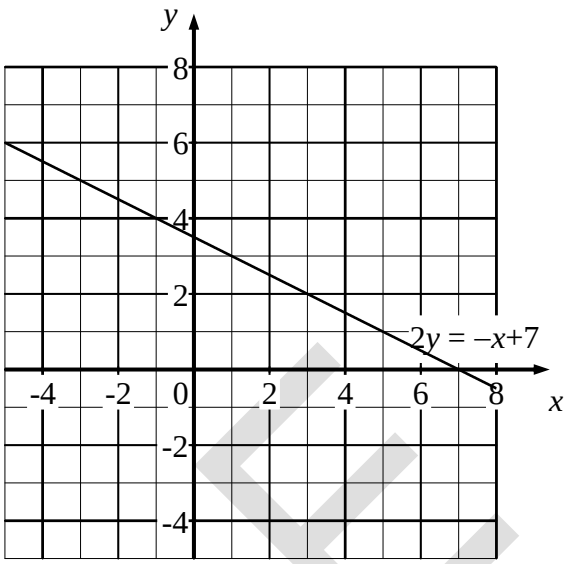
5. The line with equation $2y = -x + 7$ has been drawn on the grid.

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

$p =$ _____

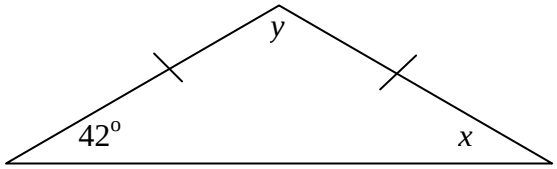
c) $5x – 2 = 3x + 8$

$x =$ _____

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 as normal numbers

a) 4.7×10^{3} = _____ b) 3.81×10^{-2} = _____

11. Write down simplified expressions for:

a) the perimeter

b) the area

of this rectangle.

a) Perimeter = _____

b) Area = _____

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

Answer = _____

13. Round the following as required:

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

b) 0.58032 to 3 decimal places b) _____

c) 10.09887 to 3 significant figures c) _____

14. If $p=-2$ *and* $q=3$, calculate the value of the following

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

Answer a) _____ Answer b) _____

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15. a) James has these four number cards:

1	8	5	2

The **mean** is 4.

James takes another card.

1	8	5	2	?

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

What number is on his new card?

_____

b) Tara has these four number cards:

10	3	2	5

She takes another card.

10	3	2	5	?

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

What number is on her new card?

_____

c) Ali has six cards

10	10	10	10	?	?

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