Westbourne House School
Revision – Summer Term

Y7 Set 1 MATHS REVISION CHECKLIST

The Exam(s) will consist of:

One Non-calculator Paper (approximately - Level 3 CE) – duration 60 minutes
One Calculator paper (approximately - Level 3 CE) – duration 60 minutes

One short Maths Aural – duration 20 minutes (paper is done during a maths lesson)

Equipment you will need for the exam:

- Ruler (15cm and 30cm)
- Pencil
- Eraser and pencil sharpener
- Compass
- Protractor
- Calculator (for the calculator paper)

TOPIC / PAPER	WHAT TO REVISE	DONE?
	Firstly, you should revise all the topics that the rest of year 7 are revising and make sure you are really secure on the level 2 common entrance work. Then, work through the sample questions below – they are similar topics but the questions should be more testing. Finally, if you go into the Maths Practice (Secure) area of the school website you will find some Level 3 papers (and answers) to complete.	

NOTES/TIPS:
• Revise by practising the questions below, using your note books and appropriate websites like www.mymaths.co.uk • The Collins KS3 Maths (Standard): All-in-One Revision and Practice (Collins KS3 Revision and Practice - New 2014 Curriculum Edition) ISBN 9780007562770 provides good revision notes and revision for topics above CE. • I cannot stress enough the need for clear and logical workings. No “doodles” – please.

- For any further information or guidance about revision or the actual exam, please contact the Head of Maths – Mrs Barbara Langford (blangford@westbournehouse.org)

Practice Questions

Fractions

1. Find the value of the following

(Hint: except for adding convert to improper fractions first and remember BIDMAS still applies)

$2\frac{3}{4}+4\frac{2}{3}$

$9\frac{1}{5}-\frac{7}{9}\times 1\frac{5}{7}$

$\frac{7}{9}\div 1\frac{1}{2}$

Fractions / Decimals / %

2. Place the following in order of size starting with the smallest
(Hint: use decimal multiplication to work out %s or decimals and show ALL your workings)

$\frac{2}{5}$ of 60 26% of 50 26 ÷ 0.5 25% of 60

Number work

3. If we know that 68 x 96 = 6528, find the value of the following .....

680 x 9.6 =
6.8 x 9.6 =
34 x 192 =
3.4 x 1.92 =
65.28 ÷ 6.8 =
$6\frac{4}{5}\times 9\frac{3}{5}=$

(Remember: you are NOT supposed to be working these calculations out long hand, you are supposed to be able to use the information in the question)

Percentages

4. A man outs £120 in the bank and earns 5% interest a year.
   a. How much does he have at the end of the first year?
   b. How much does he have at the end of 2 years?
   c. Leaving your answer in index form how much does he have after 5 years?

5. A coat costs £42.50 at a 15% discount in a sale. How much did it cost originally?

6. If I buy a jacket for £85 and sell it for £78. What is my percentage loss?

Algebra

7. Simplify the following expressions

$3a + 2b + 2a – b$

$5a – 4b – a + b$

$3a \times 3a$

$5a^2 \times 4ab$

$30 + 4(x + 3)$

$45 – 3(2x + 5)$

$60 – 3(3x – 7)$

$(3a^2)^3$

$(3x + 4)(2x – 5)$

$(2x + 5)(3x + 4)$

8. Factorise the following expressions
(Hint: remember the difference between quadratics (into two brackets) and linear (one bracket))

$3x + 6$

$3ab + 6b$

$4a^2b + 6a + 8ab$

$x^2 + 3x + 2$

$x^2 + 6x – 16$

$x^2 – 16$

$x^3 – 4x$

Did you spot all my favourite “difference of 2 squares”?

9. Solve the following equations

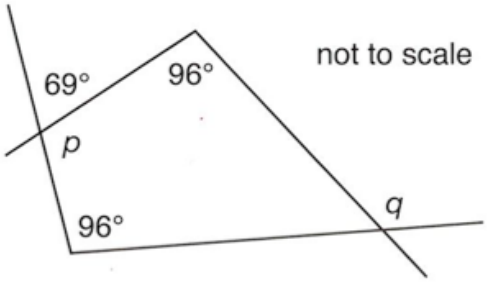
$3x + 5 = 8x – 1$

$4x – 11 = 7 – 2x$

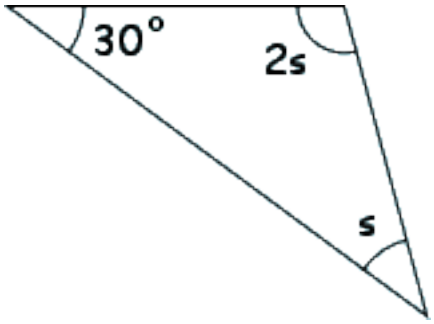
$3(2x + 4) = 17 + 2(x – 5)$

Angle work

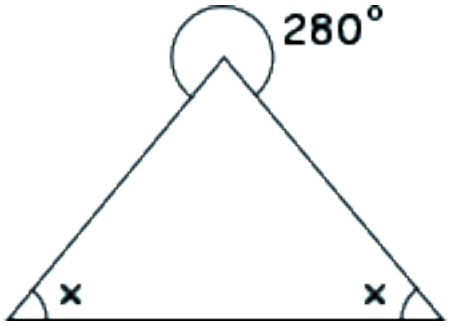
10. Find the size of each of the angles p and q



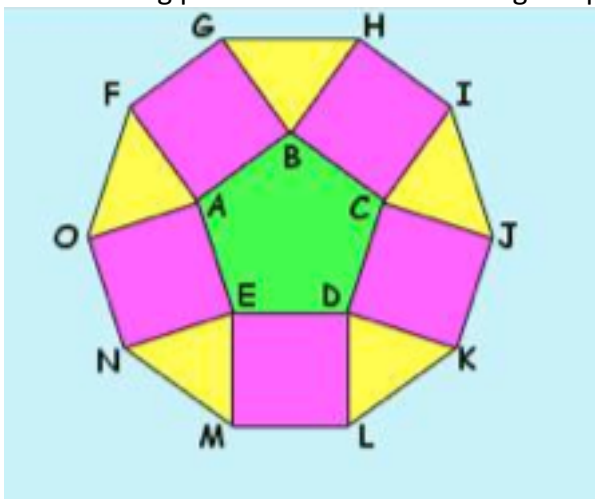
10. Find the value of s



11. Find the value of x



12. The tiling pattern is made from a regular pentagon, five squares and five triangles.



Find the following angles (the obtuse or acute angle not the reflex angle)

a. angle CDE
b. angle DLK
c. angle BGH
d. angle FAE

Averages

13. 8 people have an average score of 25 points. 3 more people join the group and the average drops to 23 points. What marks could the extra 3 people have?

14. I think of 5 numbers. They have a range of 8, a mode of 8 and a mean of 10. What could the numbers be?

Average speed

Hint: ALWAYS find the TOTAL DISTANCE and TOTAL TIME in order to work out average speed.

15. I travel 8km at 6km/hour and 10 km at 5km/hour. What is his average speed?

16. I travel at 5km/hour for 10 mins and 10 km/hour for 15 mins. What is my average speed?

Probability

17. In Aladdin's cave there were 10 bags of gold, 12 bags of silver, 13 bags of emeralds and 2 bags of diamonds.

a. Aladdin left in a rush. What is the probability he took a bag of emeralds?

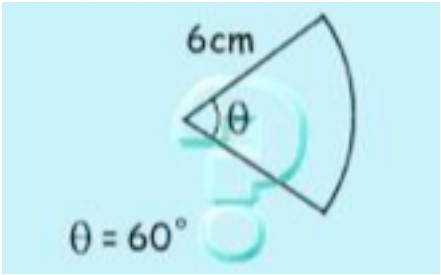
b. A genie followed him out. If Aladdin had taken a bag of gold what would the probability be that the genie would also take a bag of gold?

c. Aladdin takes 9 bags of treasure. The probability that the genie takes a bag of gold, or silver or emeralds is now the same. What is the probability that he takes a bag of diamonds?

Area and volume

18. Find the area and perimeter of the following.

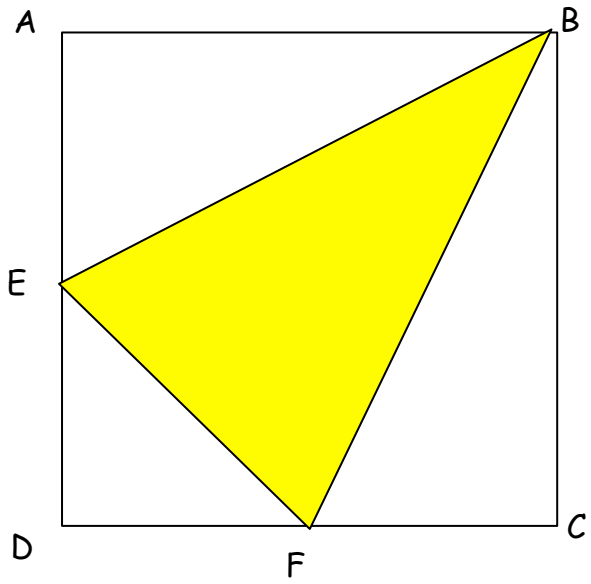
a.



b.

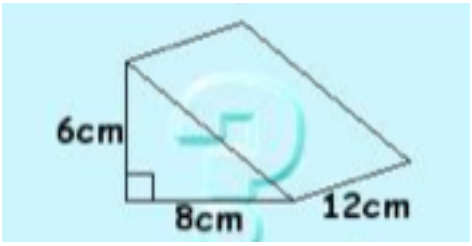
19. What fraction of the area of the square is shaded ?

AE is half the length of AD and
DF is half the length of DC

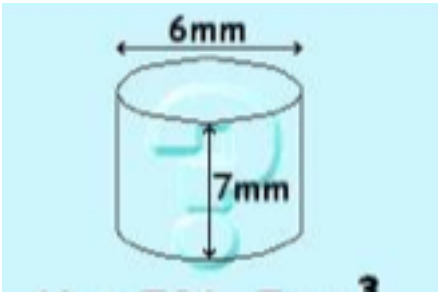


20. Find the volume and surface area of the of the following

a.



b.



21. Find the volume of the following