Carlingford High School

Mathematics

Year 7 Term 1 Task

2020

Name:_____ Class: 7__

Instructions:

- This task is to be completed independently, without consulting your notes, google or the textbook, or asking for help as you do it
- Board approved calculators may be used
- Answer each question in the space provided
- Copy and paste the following symbols if required × , ÷ , °
- All questions are worth one mark unless otherwise shown
- This task should take approximately 1 hour

Topic	Number Theory	Angles	Total	
Mark	/37	/33	/70	%

NUMBER THEORY (37 marks)

1. From the numbers 1 to 12, list the:

   a) Odd numbers_____

   b) Composite numbers_____

   c) Square numbers_____

2. a) Factors of 9 = _____

   b) Factors of 28 =_____

   c) What is the HCF of 8 and 28?_____

3. Given the multiples of 6 are 6,12,18, ….. write the multiples of 9 and then find the LCM of 6 and 9. [2marks]

_____

_____

4. Consider 3^4

   a) What is the power? _____

   b) What is the base? _____

   c) Write this in expanded form_____

   d) Evaluate _____

5. Evaluate

a) 7^2=_____

b) 5^9=_____

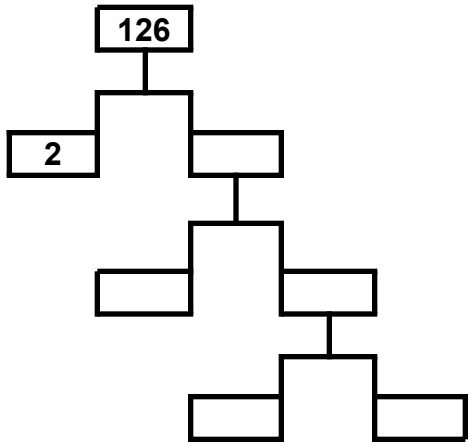
c) $\sqrt{100}$=_____

d) $\sqrt[3]{512}$= _____

e) 3 cubed _____

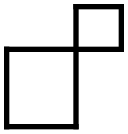
f) The difference between 6 to the power of 4 and 12 squared _____

6. Complete the factor tree and write 126 as a product of prime factors. [3marks]



_____

7. Fill in the boxes to write
$9\times9\times9\times9\times9\times9$ in index notation.



8. Fill in the gaps to complete the following long division. [2marks]

$$
\begin{array}{r}
1\_\_ \\
32\overline{)4175} \\
-\ \underline{32} \\
97 \\
-\ \underline{\_\_\_} \\
\_\_\_
\end{array}
$$

---

9. Using the distributive law complete the following. [2marks]

$7\times397 = 7\times400 - 7\times$_____

$=$_____

$=$_____

10. Round the number 3 534 to the nearest:

a) thousand _____

b) ten _____

11. Complete

a) A number is divisible by 10 if the last digit is _____

b) If the _____of all the digits is divisible by 9, the number is divisible by 9.

c) If the number formed by the last _____digits is divisible by _____the number is divisible by 8.

12. Explain in your own words how you know that 16749 is **not** divisible by 5?

_____

13. Use the method of your choice to find the LCM of 32 and 60. You may use scrap paper for working and submit your final answer.

_____

14. If the sum of the first three odd numbers is 1+3+5=9, the sum of the first three even numbers is 2+4+6 = 12 and the sum of the first four odd and even numbers are 1+3+5+7=16 and 2+4+6+8=20, what is
    a) The difference between the first 30 even numbers and the first 30 odd numbers? _____

    b) The sum of the first 30 even numbers? _____

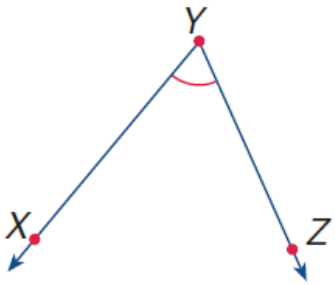
15. I am a composite odd number over 50. I am divisible by 3 and 7 and I am 2 less than a multiple of 5. What number am I? _____

ANGLES (33 marks)

The first five questions are multiple choice.

Choose the correct answer (A, B, C or D).

1. Name the angle shown _____



A $< XZY$

B $< YXZ$

C $< XYZ$

D $< ZXY$

2. Name the vertex of the angle in Question 1.._____

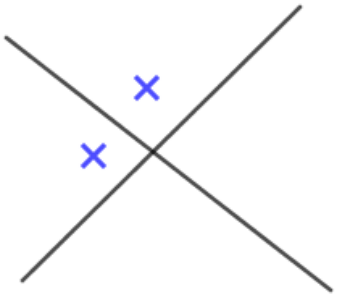
A X

B Y

C Z

D XYZ

3. What type of angles are shown_____



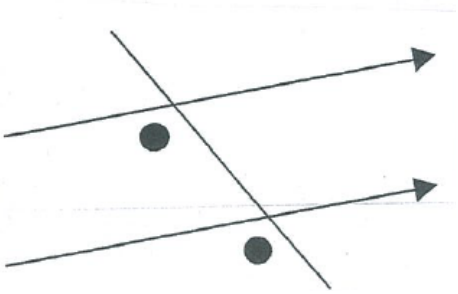
A vertically opposite

B complementary

C alternate

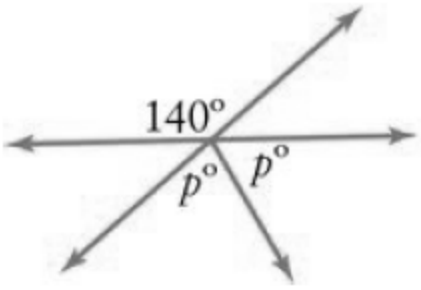
D supplementary

4. What type of angles are shown _____



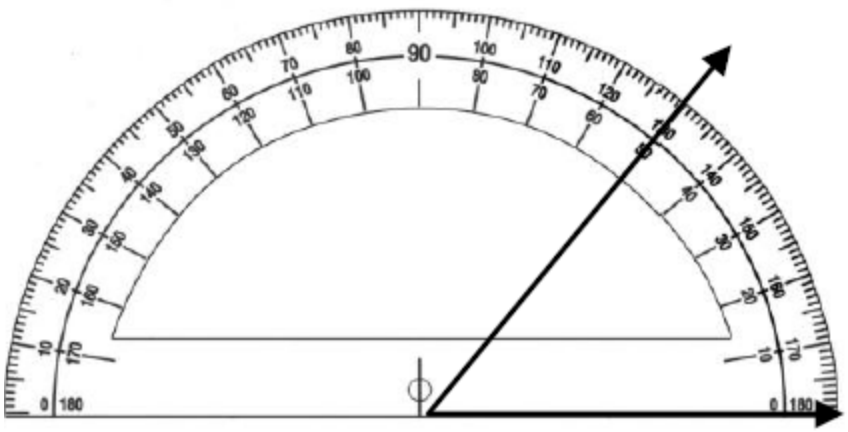
A) alternate
B) vertically opposite
C) co-interior
D) corresponding

5. Find the value of p _____



A 70
B 20
C 140
D 40

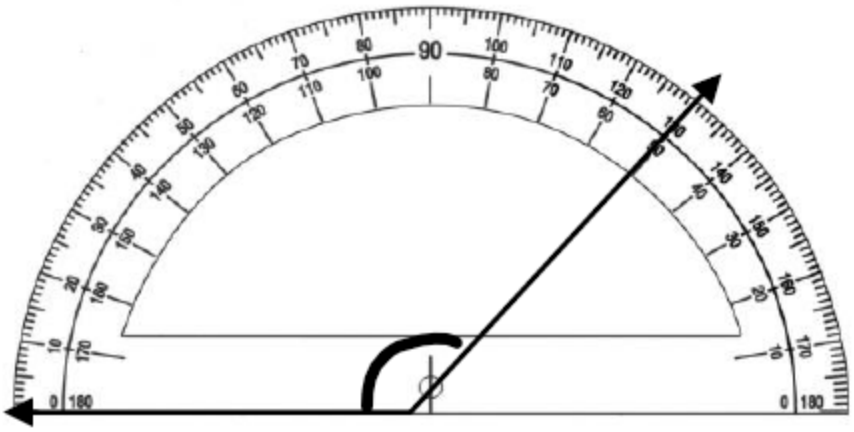
6. a) Write the size of the angle shown.___°



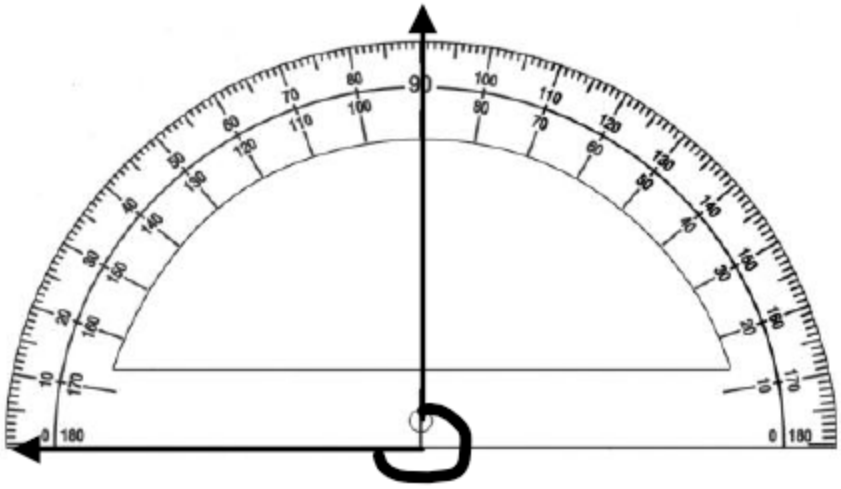
c) What type of angle is it? _____

7. **Measure** the size of the marked angle and write what **type** of angle it is.

a) [2marks]



b) [2marks]



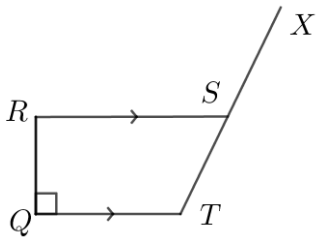
8. a) How many right angles are in one revolution? _____

b) A pizza is divided into six equal parts.

What is the centre angle of two pieces. _____

c) What is the complement of 23°_____

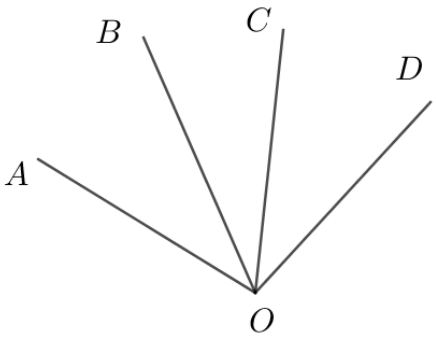
9.



a) What interval is parallel to TQ?_____

b) What interval is perpendicular to RS? ____

10.



a) Name an angle adjacent to $\angle AOC$
_____

b) How many angles are in this diagram?
(Hint: there are more than five)

_____

11. Answer TRUE or FALSE

a) An acute angle and an obtuse angle are sometimes complementary. _____

b) Corresponding angles are always equal. _____

c) Vertically opposite angles have a common arm. _____

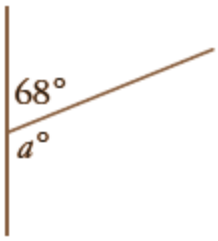
d) Parallel lines never meet._____

e) Co-interior angles add up to 180° if the lines are parallel. _____

12. Find the unknown angle **and** write the reason for your answer from the following:

Angles on a straight line	Cointerior angles on parallel lines
Angles in a revolution	Corresponding angles on parallel lines
Vertically opposite angles	Alternate angles on parallel lines
Adjacent angles	Angles in a right angle

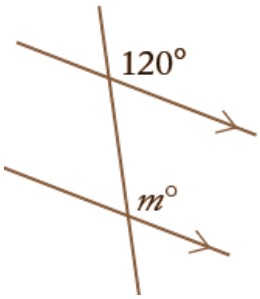
a) [2marks]



_____

___

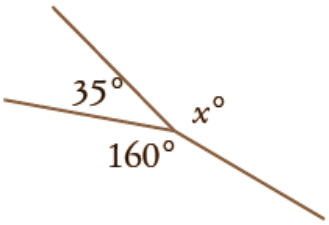
b) [2marks]



_____

___

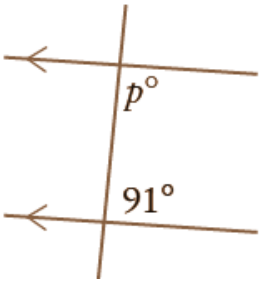
c) [2marks]



_____

___

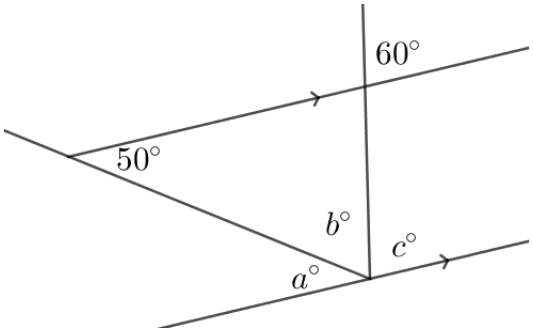
d) [2marks]



_____

___

13. Find the value of all the unknown angles. **(Reasons are not required)** [2marks]



$a =$ _____° $b =$ ____° $c =$ ____°

END OF TASK ☺