* You can print out a copy of this and write your answer in the space provided.
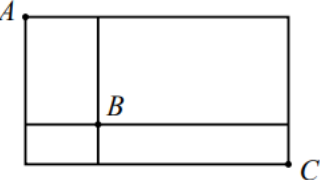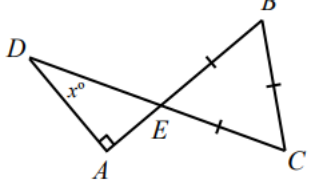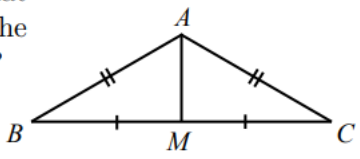* YOU HAVE 75 minutes to do it. Do as many as you can, and show your work for the last 6 questions.
* No calculators allowed.

Q#	Math 8 Honours Entrance Exam Practice Questions	Answer
1	Al sleeps daily for 3 times as many hours as he is awake. For how many hours does Al sleep daily?	
2	The average value of the ten whole numbers from 0 through 9 is	
3	On a Monday my surf club had 20 members. If the number of members doubled each day, on what day did my club first have over 2018 members?	
4	When I divide the number of digits in the decimal form of 10^{2018} by 4, the remainder is	
5	Of the first 100 positive integers, _?_ are *not* multiples of both 2 and 3.	
6	Pens come in packs of 3, 6, 8, and 12. I bought 12 packs and got a total of 121 pens. If I bought at least one of each size pack, how many packs of 8 pens did I buy?	
7	$3^2 \times 8^2 \times 5^2 = 6^2 \times$ _?_ $\times 10^2$	
8	Two congruent rectangular cards partially overlap. The area of overlap is a square with area 4, and the total area of the regions of the faces of the two cards that *do not overlap* is 12. What is the area of one card?	
9	A piano has 52 white keys that occur in a repeating pattern of ABCDEFG. The first white key is A. What letter is associated with the 33rd white key?	
10	A positive integer whose digits are the same when read forwards or backwards is called a *palindrome*. For example 474 and 222 are palindromes. How many palindromes are there between 100 and 1000?	
11	A rectangle has length x and width y. A triangle has base 16 and height x. If the area of the rectangle is equal to the area of the triangle, then the value of y is	
12	Points T, U, V, W, X, Y lie on square $PQRS$, as shown. If $PT = TU = UQ = QV = VW = WR = XS = SY$, what fraction of the area of square $PQRS$ is shaded?	

13	An ant begins its path at A, travels only right or down, and remains on the line segments shown. The number of different paths from A to C that pass through B is	

14	Laila writes a list of numbers. Her first number is 4. Each number after the first is 7 more than the previous number. Which of the following numbers appears in Laila's list? **(A)** 45 **(B)** 46 **(C)** 47 **(D)** 48 **(E)** 49	

15	In the diagram, AB and CD intersect at E. If $\triangle BCE$ is equilateral and $\triangle ADE$ is a right-angled triangle, what is the value of x?	

16	The original price of a shirt is reduced by 50% to obtain a second price. The store advertises an additional sale, and so this second price is reduced by 40% to obtain a third price. What is the discount of the third price off the original price?	

17	Two standard dice are rolled. What is the probability that the sum of the numbers on the top faces is a prime number?	

18	A large number is written with a one followed by many zeros ($1000\ldots000$). When 1 is subtracted from this number, the sum of the digits in the result is 252. How many zeros are in the original number?	

19	In the diagram, $\triangle ABC$ is isosceles. M is on BC so that $BM = MC$. If the perimeter of $\triangle ABC$ is 64 and the perimeter of $\triangle ABM$ is 40, what is the length of AM?	

20	The positive integer n has exactly 8 positive divisors including 1 and n. Two of these divisors are 14 and 21. What is the sum of all 8 positive divisors of n?	

Written Response. Please show your work and not just the final answer.

21. If one-third of the eggs in each carton of 1-dozen eggs are cracked, I must buy __?___ cartons to get 16-dozen eggs that are not cracked. Note: 1 dozen eggs is equal to 12 eggs.

22. Apples cost 65¢ each and oranges cost 85¢ each. If I spend $8.80 on apples and oranges, how many pieces of fruit did I buy all together?

23. I have only nickels, dimes, and quarters to pay for my dinner, which costs $12.60. What is the smallest number of coins I can use to pay?

24. The teachers of the three grade 7 classes each sent a student to the office to pick up Honor roll certificates. The first student took 1/3 of the certificates, the second student took 1/3 of the remaining certificates, and the last student took 1/3 of the remaining certificates. There were 32 certificates left in the office. How many were there to begin with?

25) A leather jacket costing $199.99 is placed on sale at a discount of 20%. At the end of the sale, the sale price is increased by 20%. At the next sale, the new price is again discounted by 20%. Later, that sale price is increased by 20%. What is the difference between the original price and the final price?

26) How many ways can you divide 9 books into 3 groups so that there is an odd number of books in each group?