TOPFLIGHT COLLEGE
MATHEMATICS WEEKLY TEST

CLASS: SS ONE

NAME OF CANDIDATE: ....
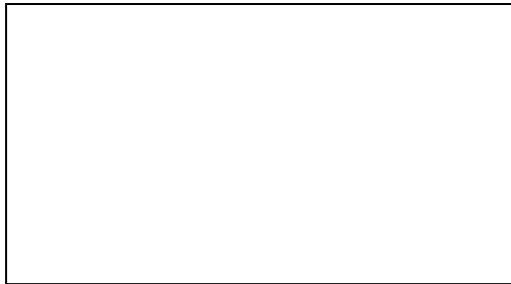
1. Simplify: $\dfrac{1\frac{1}{4} + \frac{7}{9}}{1\frac{4}{9} - 2\frac{2}{3} \times \frac{9}{64}}$

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2. A number of tourists were interviewed on their choice of means of travel. Two-thirds said they travelled by road, $\frac{13}{30}$ by air and $\frac{4}{15}$ by both air and road. If 20 tourists did not travel by either air or road,

    i.   Represent the information on a Venn diagram;

    ii.   How many tourists

    a. Were interviewed

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    b. Travelled by air only?

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3. Given that $x^2 + bx\ 18\ is\ factorized\ as\ (x + 2)(x + c)$. Find the values of c and b.

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4. Simplify: $\frac{1}{3}$ of $27^{2x-5} = 81$, find x.

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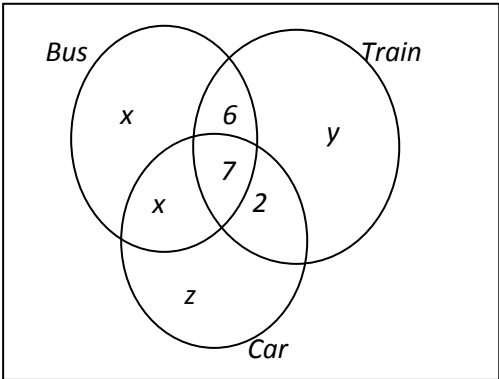..

5. In a class of 40 students, 30 take Agriculture and 20 take Physics. If 8 students take neither Agriculture nor Physics, find the number of students who take Agriculture but not Physics

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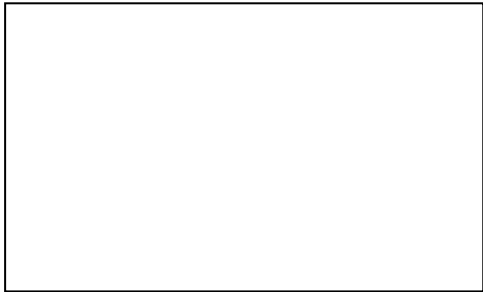
6. A number of travellers were questioned about the transport they used on a particular day. Each of them used one or more of the methods shown in the diagram below

Of those questioned, 6 said that they travelled by bus and train, 2 by train and car only and 7 by bus, train and car. The number x who travelled by bus only was equal to the number who travelled by bus and car only. Given that 35 people used buses and 25 people used train, find

a. The value of x

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b. The number who travelled by train only

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c. The number who travelled by at least two methods of transport.

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Given also that 85 people were questioned altogether, calculate

d. The number who travelled by car only

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7. In a class of 60 students, 28 like oranges, 25 like bananas. 6 like both oranges and bananas.

    a. How many like neither oranges nor bananas?

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    b. Draw a Venn diagram showing the numerical data

8. In a class, 18 students offer Geography, 21 offer Chemistry and 7 offer both and 5 offer neither. How many students are in that class?

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9. Given that $\mathcal{E} = \{1, 2, 3. \ . \ . \ , 10\}$, list the member of the following subsets of $\mathcal{E}$

   a. $\{x : x \geq -2 \leq 3\}$

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   b. $\{x : x$ is a multiple of $5 < 20\}$

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   c. $\{x : 3x - 3 = 3\}$

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   d. $\{x : 3 < x < 8\}$

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   e. $\{x : x$ is a factor of $360\}$

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   f. $\{x : (x - 2)(x - 4) = 0\}$

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TOPFLIGHT COLLEGE

MATHEMATICS WEEKLY CHALLENGE

CLASS: SS THREE

NAME OF CANDIDATE: ....

1. Simplify: $\dfrac{1\frac{1}{4} + \frac{7}{9}}{1\frac{4}{9} - 2\frac{2}{3} \times \frac{9}{64}}$

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2. Sonny is twice as old as Wale. Four years ago he four times as old as Wale. When will the sum of their ages be 66?

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3. In the diagram below, $\overline{TU}$ is a tangent to the circle. R $\hat{V}$ U = 100° and ∠URS = 36°. Calculate the value of angle STU.

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4. In the diagram below, $|PQ| = 6$cm, $|QR| = 13$cm, $|RS| = 5$cm and $\angle$RSQ is a right angle. Calculate, correct to one decimal place, $|PS|$
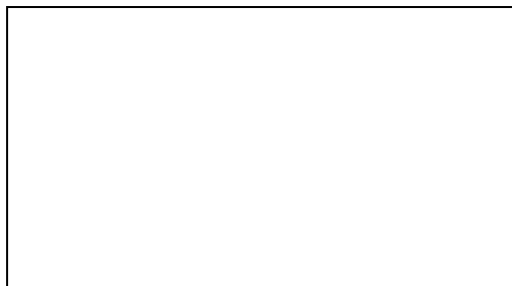

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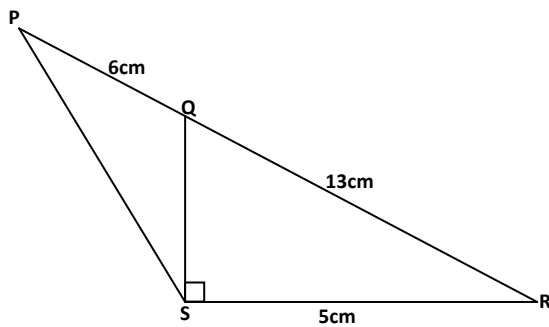
5. A number of tourists were interviewed on their choice of means of travel. Two-thirds said they travelled by road, $\frac{13}{30}$ by air and $\frac{4}{15}$ by both air and road. If 20 tourists did not travel by either air or road,

   i. Represent the information on a Venn diagram;

   ii. How many tourists
   a. Were interviewed

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b. Travelled by air only?

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6.

Class Interval	Frequency
60 – 64	2
65–69	3
70–74	6
75–79	11
80–84	8
85–89	7
90–94	2
95–99	1

The table shows the distribution of marks scored by students in an examination. Calculate, correct, to 2 decimal places, the

a. Mean

b. Standard deviation of the distribution