

REVISION SHEET 12

CALCULATOR ALLOWED

1. The following table shows the favourite colours of a group of friends.

Colour	RED	BLUE	GREEN	ORANGE
Frequency	10	7	8	5

Draw a pie chart to show these results. **You must show how you calculate each angle.**

2. The following table shows the favourite football team of a group of friends.

Team	ARSENAL	CHELSEA	LIVERPOOL	MAN UTD
Frequency	9	12	4	2

Draw a pie chart to show these results. **You must show how you calculate each angle.**

3. In a certain test, there are 10 questions. Candidates score
2 for every question answered correctly,
-1 for every question answered incorrectly, and
0 for every question they do not answer.
- a) Bob answers 4 questions correctly, 3 questions incorrectly and does not answer the other 2 questions. Calculate his total score.
- b) It is possible to end up with a negative score. Give **two** examples of how a candidate might end up with a score of -2.
4. Write down the rule for finding the n^{th} number in the pattern
5, 8, 11, 14, 17,
5. Write down the rule for finding the n^{th} number in the pattern
1, 7, 13, 19, 25,
6. Mr. and Mrs. Willis have just received their gas bill for the July to September quarter. The details of the bill are as follows:
- | | |
|--------------------------|---------|
| Previous meter reading | 14 205 |
| Present meter reading | 15 712 |
| Cost per unit is 7 pence | |
| Fixed standing charge | £14.03. |
- a) Find the total cost of the gas bill.
- b) V.A.T. of 8% is charged on gas bills. How much is Mr. and Mrs. Willis' gas bill including V.A.T?

7. Mr. and Mrs. Wallis have just received their electricity bill for the July to September quarter. The details of the bill are as follows:

Previous meter reading	62 105
Present meter reading	62 718
Cost per unit is 9 pence	
Fixed standing charge	£11.06.

- a) Find the total cost of the electricity bill.
- b) V.A.T. of 8% is charged on electricity bills. How much is Mr. and Mrs. Wallis' gas bill including V.A.T?
8. Discs of diameter 6 cm are cut from a rectangular plastic sheet of length 72 cm by 42 cm.



- a) How many discs can be cut out?
- b) Calculate the total area of all the discs that can be cut from the sheet.
- c) The plastic left after the discs are cut out is wasted. What percentage of each sheet of plastic is wasted?
9. a) A particular TV costs a shopkeeper £85.20 from the wholesaler. The shopkeeper wants to make a profit of 33% on his costs.
- What price will the TV be in the shop?
- b) Another TV was offered in a sale at a discount of 15%. The sale price is £168.30. What was the price of the TV before the sale discount?
10. a) A particular dress costs a shopkeeper £85.20 from the wholesaler. The shopkeeper wants to make a profit of 30% on his costs.
- What price will the dress be in the shop?
- b) Another dress was offered in a sale at a discount of 12%. The sale price is £102.08. What was the price of the dress before the sale discount?
11. A solution of the equation $x^3 - 2x = 12$ lies between $x = 2$ and $x = 3$. Use the method of trial and improvement to find this solution correct to one decimal place.
12. A solution of the equation $x^3 - x^2 = 40$ lies between $x = 3$ and $x = 4$. Use the method of trial and improvement to find this solution correct to one decimal place.

ANSWERS.

1. 120° , 84° , 96° , 60° .
2. 120° , 160° , 53.333333° , 26.666666° .
3. a) 5
b) E.g. 1 correct, 4 incorrect and 5 unanswered, or 2 correct, 6 incorrect and 2 unanswered.
4. $3n + 2$.
5. $6n - 5$.
6. a) £119.52 b) £129.08.
7. a) £66.23 b) £71.53.
8. a) 84 discs.
b) 2375.044046 cm^2 .
c) 21.46%.
9. a) £113.32 b) £198.
10. a) £110.76 b) £116.
11. $x = 2.6$ to one decimal place.
12. $x = 3.8$ to one decimal place.