Stanground Academy

Mathematics Department

Year 9 Foundation

Home Learning Booklet – 18th May

**ANSWERS**

 

Student’s Name:....................................................

 Teacher:.................................................................

Log on to Mathswatch.

Your username is your school login@stanground

e.g. jonet10.57@stanground

Your password is Maths1

Solving Equations

Watch the video on the hyperlink <https://vle.mathswatch.co.uk/vle/browse/297>, or find **clip 135** on MathsWatch as a reminder of how to answer the questions.

1) Solve 2x – 3 = 17 **x = 10**

2) Solve 3x + 2 = 14 **x = 4**

3) Solve 5x – 7 = 33 **x = 8**

4) Solve 4x + 7 = 19 **x = 3**

5) Solve x + x + x + x = 20 **x = 5**

6) Solve x + 3x = 24 **x = 6**

7) Solve 2(x + 3) = 8 **x = 1**

8) Solve 2(3x – 4) = 22 **x = 5**

9) Solve 5(t – 1) = 20 **t = 5**

10) Solve 3(2x + 5) = 36 **x = 3.5**

11) Solve 2x + 7 = x + 11 **x = 4**

12) Solve 5y – 2 = 3y + 10 **y = 6**

13) Solve 2x + 1 = 5x – 20 **x = 7**

14) Solve p – 3 = 3p – 11 **x = 4**

15) Solve 2d + 5 = 20 – 3d **x = 3**

16) Solve 4 – e = 2e – 8 **e = 4**

17) Solve 2(x + 3) = x + 9 **x = 3**

18) Solve x – 7 = 3(2x – 4) **x = 1**

19) Solve 5(x + 3) = 2(x + 6) **x = -1**

20) Solve 4(2y + 1) = 2(12 – y) **y = 2**

HCF and LCM

Watch the video on the hyperlink <https://vle.mathswatch.co.uk/vle/browse/756> or find **video N31b** on MathsWatch as a reminder of how to answer the questions.

1) Find the Highest Common Factor (HCF) of the following numbers.

a) 4 and 6  **= 2**

b) 8 and 16  **= 8**

c) 36 and 48  **= 12**

d) 300 and 525  **= 75**

e) 374 and 918  **= 17**

f) 45, 90 and 105  **= 15**

2) Find the Lowest Common Multiple (LCM) of the following numbers.

a) 8 and 12  **= 24**

b) 30 and 45  **= 90**

c) 15 and 18  **= 90**

d) 4, 6 and 8  **= 24**

e) 24 and 84  **= 168**

f) 72 and 96  **= 288**

3) The bells at Kings School ring every 6 minutes. At Queens School the bells ring every 5 minutes. At Princess School the bells ring every 9 minutes. All three bells ring together at 8.30 am. When is the next time the bells of the three schools will ring together?  **= 10:00am**

Two Way Tables

Watch the video on the hyperlink <https://vle.mathswatch.co.uk/vle/browse/744> or find **video P4** on MathsWatch as a reminder of how to answer the questions.

1) 160 pupils in a school are asked to choose a new colour for the school tie. They can only choose from Blue, Green or Red. Some of the results are shown in this two-way table. Complete the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Blue** | **Green** | **Red** | **TOTAL** |
| **Male** | 30 | **27** | **28** | 85 |
| **Female** | **35** | **26** | 14 | **75** |
| **TOTAL** | 65 | **53** | 42 | 160 |

2) A survey was done by a school to find out how people travel to the school. Altogether, 100 people were asked and the results can be seen below.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Walk** | **Car** | **Cycle** | **Taxi** | **Bus** | **TOTAL** |
| **Male** **Pupils** | 12 | 3 | 6 | 1 | **3** | 25 |
| **Female Pupils** | **2** | 1 | 5 | **6** | 6 | 20 |
| **Male Teachers** | **7** | 12 | **6** | 6 | **1** | 32 |
| **Female Teachers** | 4 | **8** | 2 | 7 | 2 | 23 |
| **TOTAL** | 25 | **24** | 19 | 20 | 12 | 100 |

a) Complete the two-way table.

b) How many people cycle to school? **19**

c) How many female pupils go to school by taxi? **6**

Sequences

Watch the video on the hyperlink <https://vle.mathswatch.co.uk/vle/browse/675> or find **video** **N12** on MathsWatch as a reminder of how to answer the questions.

For each number pattern:

a) Describe the pattern b) Work out what the next three terms are

 (i) 2, 4, 6, 8, 10, 12, **14, 16, 18 (+2)**

(ii) 1, 4, 7, 10, 13, 16, **19, 22, 25 (+3)**

(iii) 5, 12, 19, 26, 33, 40, **47, 54, 61 (+7)**

(iv) -2, 3, 8, 13, 18, 23, 28**, 33, 38 (+5)**

(v) 36, 33, 30, 27, 24, 21, **18, 15, 12 (-3)**

(vi) -12, -8, -4, 0, 4, 8, **12, 16, 20 (+4)**

(vii) 100, 91, 82, 73, 64, 55, **46, 37, 28 (-9)**

(viii) 7, 8.5, 10, 11.5, 13, 14.5, **16, 17.5, 19 (+1.5)**

2) For both of the following number patterns:

a) Describe the pattern b) Work out what the next three terms are

(i) 1, 4, 9, 16, 25, 36, **49, 64, 81 (they are the square numbers)**

(ii) 1, 3, 6, 10, 15, 21, **28, 36, 45 (add an extra 1 more than the time before)**