Block 1

2nd Level
### Angles

#### Exercise 1

1. Copy the following table into your jotter.

<table>
<thead>
<tr>
<th>Type of Angle</th>
<th>Name of Angle</th>
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<tbody>
<tr>
<td>(a) acute</td>
<td>$\angle ABC$</td>
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<td>(l)</td>
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</tbody>
</table>

Use the pictures opposite to complete your table.
Exercise 2

1. Using a protractor measure the following angles

   a
   b

   c
   d

   e
   f

   g
   h

   l
   j
Exercise 3

1 Using a protractor draw the following angles

a 60°  b 45°  c 90°

d 110°  e 160°  f 80°

g 125°  h 10°  l 150°

j 175°  k 100°  l 25°
Introduction to Equations

Exercise 1
Find the missing number

1. \[3 + 3\]  
2. \[21 + 4\]  
3. \[14 + 7\]  
4. \[5 + 8\]  
5. \[6 - 4\]  
6. \[8 - 3\]  
7. \[4 + 13\]  
8. \[7 - 6\]  
9. \[81 - 20\]  
10. \[99 - 15\]

Exercise 2
Find the missing number

1. \[\square + 3 = 16\]  
2. \[\square + 5 = 15\]  
3. \[\square - 4 = 8\]  
4. \[\square - 9 = 32\]  
5. \[\square + 8 = 48\]  
6. \[\square - 2 = 7\]  
7. \[\square + 2 = 11\]  
8. \[\square - 3 = 23\]  
9. \[\square + 6 = 45\]  
10. \[\square - 7 = 60\]

Maths Department
Exercise 3

1. 3 \times 2
2. 2 \times 5
3. 4 \times 4
4. 5 \times 8
5. 6 \times 3
6. 8 \times 2
7. 4 \times 6
8. 7 \times 5
9. 8 \times 9
10. 9 \times 10

Exercise 4

Find the missing number

1. \[\square \times 2 = 16\]
2. \[\square \times 3 = 15\]
3. \[\square \times 4 = 28\]
4. \[\square \times 8 = 32\]
5. \[\square \times 6 = 48\]
6. \[\square \times 9 = 18\]
7. \[\square \times 7 = 21\]
8. \[\square \times 4 = 24\]
9. \[\square \times 9 = 45\]
10. \[\square \times 10 = 60\]
Exercise 5
Find the missing number

1  □ + 5 = 8  2  □ + 7 = 12  3  □ + 9 = 15
4  □ + 6 = 10  5  □ + 5 = 12  6  □ + 1 = 13
7  □ + 7 = 18  8  □ + 2 = 19  9  □ + 9 = 25
10 □ + 14 = 18  11 □ + 3 = 4  12 □ + 1 = 16
13 □ + 15 = 18  14 □ + 7 = 7  15 □ + 8 = 25
16 □ + 20 = 80  17 □ + 17 = 20  18 □ + 6 = 35
19 □ + 50 = 100  20 □ + 12 = 20  21 □ + 9 = 11
22 □ + 2 = 10  23 □ + 7 = 10  24 □ + 9 = 30
25 □ + 5 = 20  26 □ + 14 = 30  27 □ + 15 = 20
28 □ + 13 = 20  29 □ + 7 = 40  30 □ + 90 = 100
Exercise 6
Find the missing number

1  [ ] - 5 = 10  2  [ ] - 7 = 10  3  [ ] - 9 = 10
4  [ ] - 6 = 12  5  [ ] - 5 = 20  6  [ ] - 1 = 13
7  [ ] - 7 = 8  8  [ ] - 2 = 9  9  [ ] - 9 = 5
10 [ ] - 14 = 18  11 [ ] - 3 = 14  12 [ ] - 1 = 13
13 [ ] - 15 = 8  14 [ ] - 7 = 7  15 [ ] - 8 = 15
16 [ ] - 20 = 60  17 [ ] - 7 = 20  18 [ ] - 6 = 30
19 [ ] - 50 = 10  20 [ ] - 12 = 20  21 [ ] - 9 = 11
22 [ ] - 2 = 8  23 [ ] - 7 = 3  24 [ ] - 9 = 1
25 [ ] - 5 = 0  26 [ ] - 14 = 36  27 [ ] - 15 = 20
28 [ ] - 13 = 20  29 [ ] - 7 = 33  30 [ ] - 90 = 10
Exercise 7

For each picture write down an equation and then solve to find the weight of the box

1

2

3

4

5

6

7

8

9

10
Exercise 8

Solve the following equations by finding the missing number:

1. \( x + 3 = 5 \)  
2. \( x + 5 = 9 \)  
3. \( x + 2 = 8 \)

4. \( x - 3 = 9 \)  
5. \( x + 4 = 8 \)  
6. \( x - 2 = 4 \)

7. \( x + 1 = 9 \)  
8. \( x + 4 = 5 \)  
9. \( x + 9 = 12 \)

10. \( x + 4 = 10 \)  
11. \( x - 5 = 14 \)  
12. \( x - 7 = 4 \)

13. \( x + 9 = 20 \)  
14. \( x + 1 = 1 \)  
15. \( x - 3 = 0 \)

Exercise 9

Solve the following equations by finding the missing number:

1. \( a + 1 = 10 \)  
2. \( b + 7 = 12 \)  
3. \( c + 10 = 11 \)

4. \( d + 2 = 13 \)  
5. \( e - 3 = 14 \)  
6. \( f + 12 = 15 \)

7. \( q + 6 = 26 \)  
8. \( r + 8 = 27 \)  
9. \( s + 7 = 25 \)

10. \( t - 9 = 30 \)  
11. \( u + 10 = 42 \)  
12. \( v - 10 = 50 \)

13. \( a - 1 = 5 \)  
14. \( b - 3 = 6 \)  
15. \( c - 2 = 5 \)
Nets

Exercise 1

1  Here is a picture of a cube
   a  How many faces are there?
   b  How many edges does the cube have?
   c  How many vertices are there (corners)?

2  Here is a picture of a cuboid
   a  How many faces are there?
   b  How many edges does the cube have?
   c  How many vertices are there (corners)?
3. Here is a picture of a cone.
   a. How many faces are there?
   b. How many edges does the cube have?
   c. How many vertices are there (corners)?

4. Here is a picture of a triangular prism.
   a. How many faces are there?
   b. How many edges does the cube have?
   c. How many vertices are there (corners)?

5. Which shape is being described in each statement?
   a. It has six faces. All faces are the same size. It has six corners.
   b. It has five faces (three rectangles and two triangles). It has six corners.
   c. It has only one face. It is curved so it rolls.
   d. It has only one edge. It has two faces (one flat one curved).
Exercise 2

Here are ten different 3D shapes (A-J), can you match them with the nets (a-j)
Exercise 3 (worksheet required)

On each net you must first decide whether or not you think it will make a proper 3-D shape or not. Once you have ticked the appropriate box you can cut it out to find out if you were correct or not.
Sequences

Exercise 1
Copy these patterns into your jotter and draw the next 2 shapes

1

2

3

4

5

6

7
Exercise 2

Copy these sequences into your jotter and write down the next 2 numbers

1. 1, 2, 3, 4, ..., ....
2. 2, 4, 6, 8, ..., ....
3. 3, 5, 7, 9, ..., ....
4. 1, 4, 7, 17, ..., ....
5. 5, 8, 11, 14, ..., ....
6. 7, 11, 15, 19, ..., ....
7. 23, 22, 21, 20, ..., ....
8. 19, 17, 15, 13, ..., ....
9. 41, 43, 45, 47, ..., ....
10. 32, 34, 36, 38, ..., ....
11. 16, 19, 22, 25, ..., ....
12. 17, 20, 23, 26, ..., ....
13. 39, 36, 33, 30, ..., ....
14. 51, 48, 45, 42, ..., ....
15. 21, 25, 29, 33, ..., ....
16. 52, 56, 60, 64, ..., ....
17. 4, 5, 6, 7, ..., ....
18. 9, 10, 11, 12, ..., ....
19. 4, 6, 8, 10, ..., ....
20. 6, 9, 12, 15, ..., ....
21. 10, 15, 20, 25, ..., ....
22. 5, 7, 9, 11, ..., ....
23. 8, 11, 14, 17, ..., ....
24. 21, 19, 17, 15, ..., ....
25. 36, 30, 24, 18, ..., ....
26. 10, 13, 16, 19, ..., ....
27. 23, 19, 15, 11, ..., ....

Exercise 3

1. Copy and complete each table

<table>
<thead>
<tr>
<th>Number of matches</th>
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<tbody>
<tr>
<td>1</td>
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</tbody>
</table>

Design1

Design 2

Design 3
<table>
<thead>
<tr>
<th>Design Number</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>Number of circles</td>
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**Design 1**

**Design 2**

**Design 3**

**Design 4**

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**Design 1**

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**Design 4**

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**Design 1**

**Design 2**

**Design 3**

**Design 4**
How many circles will be needed for design 5?

How many circles will be needed for design 10?

What is the rule for working out the number of circles, if you know the design number?
## Exercise 4

For each question:

a) Copy and complete the table

b) Write down the rule for the table

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**Rule:**
11  | W 1 2 3 4 5 6 13 |
    | X 8 11 14       |

Rule:

12  | Y 1 2 3 4 5 6 10 |
    | Z 8 13 18       |

Rule:

13  | A 1 2 3 4 5 6 15 |
    | B 10 12 14      |

Rule:

14  | C 1 2 3 4 5 6 10 |
    | D 10 13 16      |

Rule:

15  | A 1 2 3 4 5 6 20 |
    | B 5 8 11        |

Rule:

16  | C 1 2 3 4 5 6 25 |
    | D 6 8 10        |

Rule:

17  | E 1 2 3 4 5 6 50 |
    | F 1 3 5         |

Rule:

18  | G 1 2 3 4 5 6 100 |
    | H 1 4 7         |

Rule:

19  | J 1 2 3 4 5 6 50 |
    | K 4 7 10        |

Rule:

20  | L 1 2 3 4 5 6 25 |
    | M 5 9 13        |

Rule: