7/4 Maths w/c 4th May 2020

3. We are exploring angles and turning - ANSWERS.

How many degrees would be in a straight line angle? 180 degrees / 180º

What if we put three right-angles together? 270 degrees / 270º

How many right-angles would it be if we went all the way around? 360 degrees / 360º

Task 1 - Fill in this table:

|  |  |  |
| --- | --- | --- |
| Angle | Fraction of a full turn | How many degrees? |
| a right-angle |  | 90º |
| straight line | or | 180º |
| three right-angles |  | 270º |
| a full turn | 1 or | 360º |

Task 2 – The compass – facing North - clockwise

Look at the compass below. For all the questions in this section, you need to imagine that you are facing North. For all of these questions, you will be turning ‘clockwise’ – same direction as the arrow.

|  |  |  |  |
| --- | --- | --- | --- |
|  | North | |  |
| West |  |  | East |
|  |  |
|  | South | |  |

a) Turn from North to East

* How many right-angles do you need to turn? 1
* What fraction of a turn would that be?
* How many degrees is that? 90º

b) Turn from North to West

* How many right-angles do you need to turn? 3
* What fraction of a turn would that be?
* How many degrees is that? 270º

c) Turn from North to South

* How many right-angles do you need to turn? 2
* What fraction of a turn would that be? or ½
* How many degrees is that? 180º

Task 3 – The compass – facing North – anti-clockwise

Now answer the same questions as if you were turning anti-clockwise

|  |  |  |  |
| --- | --- | --- | --- |
|  | North | |  |
| West |  |  | East |
|  |  |
|  | South | |  |

a) Turn from North to East

* How many right-angles do you need to turn? 3
* What fraction of a turn would that be?
* How many degrees is that? 270º

b) Turn from North to West

* How many right-angles do you need to turn? 1
* What fraction of a turn would that be?
* How many degrees is that? 90º

c) Turn from North to South

* How many right-angles do you need to turn? 2
* What fraction of a turn would that be? or ½
* How many degrees is that? 180º

EXTRA CHALLENGE

Task 4 – The compass

This time, each question will tell you where you are starting from and where you need to turn to. It will also tell you which direction. Read the questions carefully.

|  |  |  |  |
| --- | --- | --- | --- |
|  | North | |  |
| West |  |  | East |
|  |  |
|  | South | |  |

a) Turn from South to East anti-clockwise

* How many right-angles do you need to turn? 1
* What fraction of a turn would that be?
* How many degrees is that? 90º

b) Turn from South to West anti-clockwise

* How many right-angles do you need to turn? 3
* What fraction of a turn would that be?
* How many degrees is that? 270º

c) Turn from East to North anti-clockwise

* How many right-angles do you need to turn? 1
* What fraction of a turn would that be?
* How many degrees is that? 90º

d) Turn from East to North clockwise

* How many right-angles do you need to turn? 3
* What fraction of a turn would that be?
* How many degrees is that? 270º

e) Turn from West to South clockwise

* How many right-angles do you need to turn? 3
* What fraction of a turn would that be?
* How many degrees is that? 270º