

Maths Answers

Summer 2 - Week 1

Lesson 1 (1.6.20)

Let's Practise:

Reflex = between 180° and 360°

Full Turn = 360°

Acute = Less than 90°

Right angle = 90°

Obtuse angle = greater than 90° but less than 180°

Straight line = 180°

Challenge 1:

Q1: (a) 90 (b) less than, 90 (c) greater than, 90, 180

Q2: (a) acute angle (b) right angle (c) obtuse angle

Q3: (a) acute (b) obtuse (c) right angle

Take any sensible explanation.

Challenge 2:

Q1: (a) acute (b) right angle (d) obtuse (e) right angle

Q2: (a) acute (b) obtuse (c) right angle (d) acute (e) obtuse (f) obtuse

Take any sensible explanation

Q3:(a) acute (b) right angle

Challenge 3:

Q1: Teddy is incorrect. Angle B is less than 90 degrees, it's just the angle mark that is bigger. Angle A is a right angle.

Q2: $87 + 98 = 185$

Q3: True. 180 divided by $2 = 90$. So if there is one angle below 90 degrees (acute), the other one must be bigger than 90 to make up the difference to 180.

Q4: (a) Always true (b) Never true (c) Sometimes true. It depends on the size of the acute angles. For example 2×15 degrees is still less than 90 degrees. Obtuse angles are greater than 90 degrees.

Lesson 2 (2.6.20)

Challenge 1:

Q1:(a) 90 (b) 90 (c) 90,180 (d) 180,360

Q2: (a) the swimming pool (b) 180 degrees

Q3: True because an obtuse angle measures between 91 and 179 degrees. If it is more than 180, it is a reflex angle.

Challenge 2:

Q1: (a) Her house again! (b) 360 degrees

Q2: Acute- top left Obtuse- top right, both other angles are right angles.

Q3: (a) the house (b) 180 degrees

Challenge 3:

Q1: The restaurant

Q2: Various answers: Could be 79 degrees because all the others are multiples of 45.

Or 270 degrees because it's the only reflex angle.

Q3: The angle could measure 120 degrees because it is greater than a right angle, but not a straight line, so the angle has to be obtuse. (any answer between 120-160 degrees is acceptable with the correct explanation)

Lesson 3 (3.6.20)

Challenge 1:

Q1: 90, 2, 180

Q2: Angle a = 140 degrees ($180-40=140$)

Q3: Jack is wrong because his angles add up to more than 180 degrees.

Challenge 2:

Q1: a = 147 degrees b = 53 degrees c = 86 degrees

Q2: Dora is incorrect because the angles add up to 190 degrees. Angles on a straight line always add up to 180 degrees, so AB cannot be a straight line.

Q3: This is true. If one angle is 90 degrees. If one angle is less than 90, then the other one would be more than 90 to equal 180 degrees. For example: $80 + 100 = 180$. So two angles can never BOTH be over 90.

Challenge 3:

Q1: x = 116 degrees y = 52 degrees z = 57 degrees

Q2: Various answers which fit the criteria. For example: Both angles have to add up to 90 degrees and be larger than 39 degrees. As x is smaller than y, x could be 41 degrees and y could be 49.

Q3: b = 41 a = 139 or b = 39 a = 137 or b = 47 a = 133

Lesson 4 (4.6.20)

Challenge 1:

Q1: half of a turn 2 right angles = 180 degrees

Q2: 35 degrees ($360 - 325 = 35$)

Challenge 2:

Q1: (a) 300 degrees (b) 190 degrees (c) 231 degrees (d) 155 degrees

Q2: 222 degrees

Q3: Jerry is incorrect. If it makes one full turn it will end up in the same place as it started - 70mph.

Challenge 3:

Q1: $g = 36$ degrees (360 divided by $10 = 36$)

Q2: South 45 degrees

Q3: 90 and 270 degrees.

60 degrees at 4:30

The angle would be 30 degrees at 5:30 (each hour of the clock = 30 degrees because the full clock is 360 degrees and there are 12 hours. So 360 divided by $12 = 30$).

Therefore 1 move on the clock (between 5 and 6 as in 5:30) is 30 degrees.