Homework/Extension
Step 5: Angles On a Straight Line

National Curriculum Objectives:

Mathematics Year 5: (5G4b) Identify angles at a point and one whole turn (total 360 degrees) and angles at a point on a straight line and half a turn (total 180 degrees).

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)
Developing Identify whether a statement is true or false. Up to two angles may be given on a horizontal line where each of the angles is measured to the nearest 5°.
Expected Identify whether a statement is true or false. Up to two angles may be given on a horizontal line where each of the angles is measured to the nearest whole degree.
Greater Depth Identify whether a statement is true or false. Up to two angles may be missing on a horizontal line where each of the angles is measured to the nearest whole degree. Clues will be given in order to calculate the missing angles.

Questions 2, 5 and 8 (Varied Fluency)
Developing Identify the line which is missing a given angle. Up to two angles may be given on a horizontal line where each of the angles is measured to the nearest 5°.
Expected Identify the line which is missing a given angle. Up to two angles may be given on a horizontal line where each of the angles is measured to the nearest whole degree.
Greater Identify the line which is missing a given angle. Up to two angles may be missing on a horizontal line where each of the angles is measured to the nearest whole degree. Clues will be given in order to calculate the missing angles.

Questions 3, 6 and 9 (Reasoning and Problem Solving)
Developing Explain if a statement is correct or incorrect. Up to two angles may be given on a horizontal line where each of the angles is measured to the nearest 5°.
Expected Explain if a given statement is correct or incorrect. Up to two angles may be given on a horizontal line where each of the angles is measured to the nearest whole degree.
Greater Depth Explain if a statement is correct or incorrect. Up to two angles may be missing on a horizontal line where each of the angles is measured to the nearest whole degree. Clues will be given in order to calculate the missing angles.

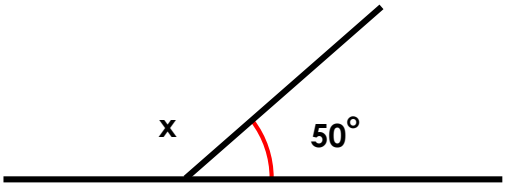
More Year 5 Properties of Shape resources.

Did you like this resource? Don't forget to review it on our website.

Angles on a Straight Line

1. True or false? Both missing angles marked x are 130°.

A.



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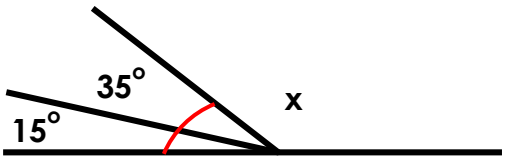


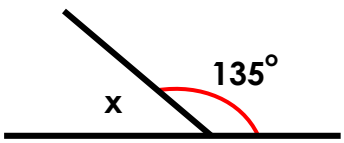
D

Angles not drawn to scale

VF
HW/Ext

2. Which line has a missing angle of 35°?

A.



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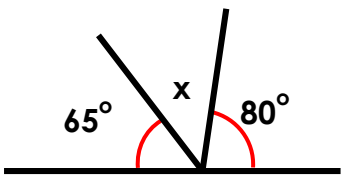

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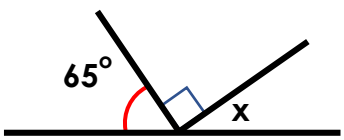


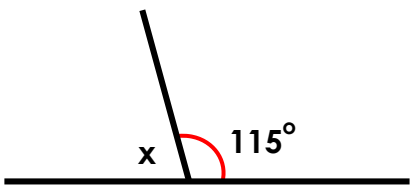
D

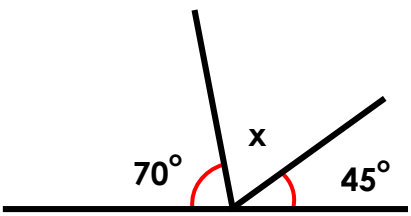
Angles not drawn to scale

VF
HW/Ext

3. Paddy thinks that his missing angle is smaller than Kim's.

Paddy





Kim

Is he correct? Explain your answer.

D

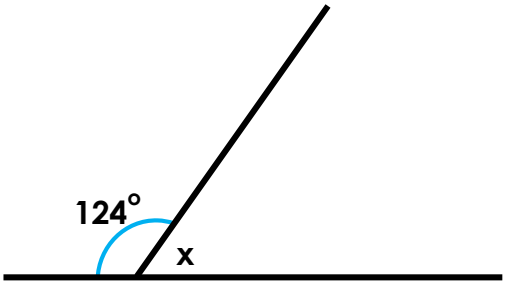
Angles not drawn to scale

RPS
HW/Ext

Angles on a Straight Line

4. True or false? Both missing angles marked x are 57°.

A.



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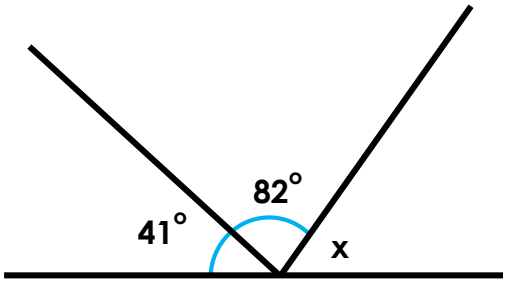


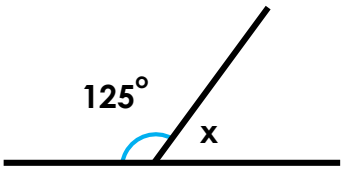
E

Angles not drawn to scale

VF
HW/Ext

5. Which line has a missing angle of 22°?

A.



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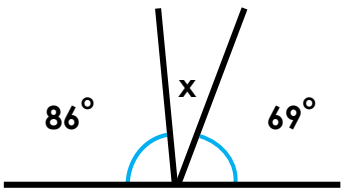

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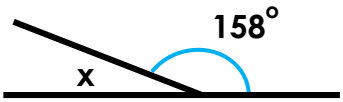


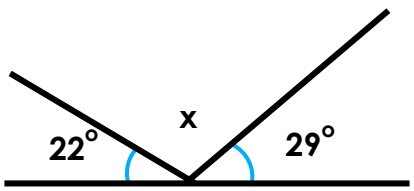
E

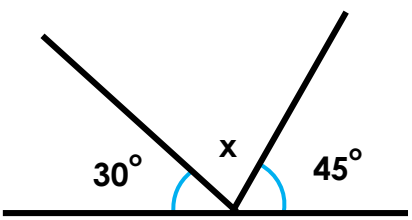
Angles not drawn to scale

VF
HW/Ext

6. Florence thinks that her missing angle is bigger than Freya's.

Florence





Freya

Is she correct? Explain your answer.

E

Angles not drawn to scale

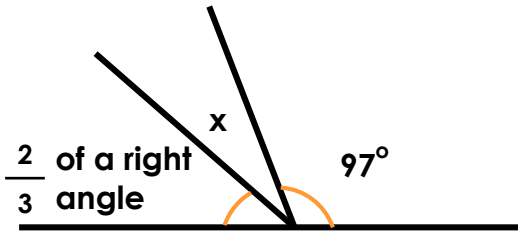
RPS
HW/Ext

Angles on a Straight Line

7. True or false? Both missing angles marked x are 32°.

A.

B.

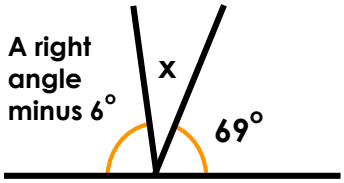


Angles not drawn to scale

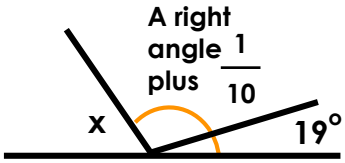
VF
HW/Ext

8. Which line has a missing angle of 63°?

A.



B.



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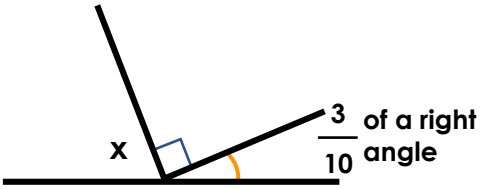
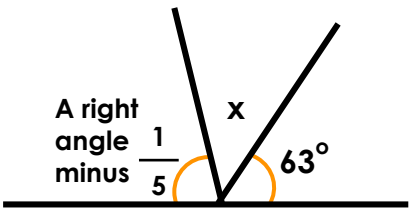


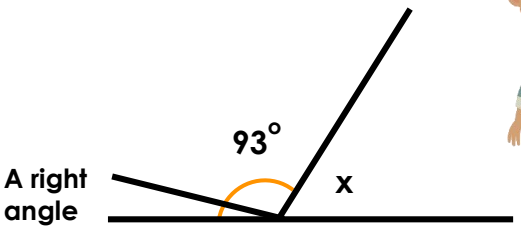
Angles not drawn to scale

VF
HW/Ext

9. Betty thinks that her missing angle is half the size of Dan's missing angle.

Betty





Dan

Is she correct? Explain your answer.

Angles not drawn to scale

RPS
HW/Ext

Homework/Extension
Angles on a Straight Line

Developing

1. True.
2. Line B has a missing angle of 35°.
3. Paddy is incorrect as both he and Kim both have a missing angle of 65° as 180° – 115° = 65° and 180° – 70° = 110° and 110° – 45° = 65°.

Expected

4. False. The missing angle on line B is 57° but the missing angle on line A is 56°.
5. Line C has a missing angle of 22°.
6. Florence is correct. The missing angle on Florence's line = 129° as 22° + 29° = 51°. 180° – 51° = 129°. Whereas, Freya's missing angle = 105° as 30° + 45° = 75°. 180° – 75° = 105°.

Greater Depth

7. False. Line A has a missing angle of 32° but line B has a missing angle of 23°.
8. Line C has a missing angle of 63°.
9. Betty is incorrect. Her missing angle = 45° as 180° – 63° = 117°. A right angle – one fifth = 72° so 117° – 72° = 45° and Dan's missing angle is 78° as 180° – 93° = 87°. A right angle – 9 x 9 = 9° so 87° – 9° = 78°. Therefore, Betty's angle is not half the size of Dan's as if it was, it would be 39°.