THE STRIVING

MUSLIM ACADEMY

Islamic and Academic Education

YEARS 7 TO 9 · MATHEMATICS · PRACTICE PACK

Geometry and measures

The key stage 3 programme of study. The sets get harder through the pack, from arriving in Year 7 to leaving Year 9, and every question is worked through at the back.

WHAT IS INSIDE

- Angles at a point, on a line and in a triangle
- Parallel lines and the angles in a polygon
- Area, perimeter and circles
- Pythagoras and solid shapes
- How each one is worked

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4 sets · a hint on every question

Written for a parent teaching at home. No training assumed, and nothing else to buy.

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Parallel lines and the angles in a polygon, continued



5. **A line crosses two parallel lines. One angle is 97 degrees. What is the co-interior angle next to it?**
   Co-interior angles are between the parallel lines on the same side, and they add to 180.

6. **A line crosses two parallel lines. One angle is 94 degrees. What is the co-interior angle next to it?**
   Co-interior angles are between the parallel lines on the same side, and they add to 180.

7. **A line crosses two parallel lines. One angle is 69 degrees. What is the co-interior angle next to it?**
   Co-interior angles are between the parallel lines on the same side, and they add to 180.

8. **What do the interior angles of a 5-sided polygon add up to?**
   Split it into triangles from one corner: there are always two fewer triangles than sides.

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Quick check



One right answer each. Ring the letter. These are for seeing what has stuck, so do them without working anything out on paper.

1. **A line crosses two parallel lines. One angle is 125 degrees. What is the corresponding angle?**
   (A) 125 degrees (B) 62 degrees (C) 242 degrees (D) 62.8 cm

2. **A line crosses two parallel lines. One angle is 97 degrees. What is the co-interior angle next to it?**
   (A) 44 degrees (B) 1080 degrees (C) 83 degrees (D) 13 cm

3. **A triangle has angles of 41 and 76 degrees. What is the third angle?**
   (A) 111 degrees (B) 17 cm (C) 44 cm (D) 63 degrees

4. **A cuboid measures 9 cm by 6 cm by 5 cm. What is its volume?**
   (A) 270 cm^3 (B) 121 cm^2 (C) 280 cm^3 (D) 36 cm^2

5. **A trapezium has parallel sides of 10 cm and 9 cm, and a height of 6 cm. What is its area?**
   (A) 88 cm^2 (B) 121 cm^2 (C) 57 cm^2 (D) 180 cm^3

6. **Two angles sit on a straight line. One is 62 degrees. What is the other?**
   (A) 1440 degrees (B) 219 degrees (C) 118 degrees (D) 86 degrees

7. **A triangle has a base of 16 cm and a height of 11 cm. What is its area?**
   (A) 36 cm^2 (B) 121 cm^2 (C) 280 cm^3 (D) 88 cm^2

8. **A line crosses two parallel lines. One angle is 44 degrees. What is the corresponding angle?**
   (A) 71 degrees (B) 22 degrees (C) 44 degrees (D) 44 cm

9. **A right-angled triangle has short sides of 8 cm and 15 cm. How long is the hypotenuse?**
   (A) 134 degrees (B) 118 degrees (C) 125 degrees (D) 17 cm

10. **A circle has a diameter of 20 cm. What is its circumference, to 1 decimal place? Use pi = 3.14.**
    (A) 111 degrees (B) 18.8 cm (C) 62.8 cm (D) 15 cm

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How each one is worked, continued

PARALLEL LINES AND THE ANGLES IN A POLYGON, CONTINUED



2. A line crosses two parallel lines. One angle is 82 degrees. What is the corresponding angle?

1. Corresponding angles on parallel lines are equal.
2. So the angle is also 82 degrees.

Answer: **82 degrees**

3. A line crosses two parallel lines. One angle is 145 degrees. What is the corresponding angle?

1. Corresponding angles on parallel lines are equal.
2. So the angle is also 145 degrees.

Answer: **145 degrees**

4. A line crosses two parallel lines. One angle is 125 degrees. What is the corresponding angle?

1. Corresponding angles on parallel lines are equal.
2. So the angle is also 125 degrees.

Answer: **125 degrees**

5. A line crosses two parallel lines. One angle is 97 degrees. What is the co-interior angle next to it?

1. Co-interior angles add up to 180 degrees.
2. 180 − 97 = 83.

Answer: **83 degrees**

6. A line crosses two parallel lines. One angle is 94 degrees. What is the co-interior angle next to it?

1. Co-interior angles add up to 180 degrees.
2. 180 − 94 = 86.

Answer: **86 degrees**

7. A line crosses two parallel lines. One angle is 69 degrees. What is the co-interior angle next to it?

1. Co-interior angles add up to 180 degrees.
2. 180 − 69 = 111.

Answer: **111 degrees**

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SAMPLE PAGES

You have read a few pages. The pack is longer.

What you are holding is a short sample, taken from different parts of the pack so that you can see how a week is planned and what a child is actually asked to do, before you decide.

The complete pack, and the rest of the academic materials, are on our website: schemes of work for a parent teaching at home, and practice packs for the skills children get stuck on.

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Islamic and Academic Education

Members of the homeschool community do not buy these. If you have joined the community, the pack for the term you are working on is given to you at no cost.

Our Islamic Education classes are free. These packs are part of what pays the teachers who teach them.