Year 8 Angles and Constructions – Foundation

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Answers and worked solutions · 10 questions

A. Angle and polygon skills

1. **a parallelogram**
   Match the properties: a parallelogram

2. **a rhombus**
   Match the properties: a rhombus

3. **7 sides, 7 lines of symmetry, order 7 (regular heptagon)**
   For a regular polygon these three numbers are always equal
   n = 7

4. **5 sides, 5 lines of symmetry, order 5 (regular pentagon)**
   For a regular polygon these three numbers are always equal
   n = 5

5. **x = 85°**
   The exterior angle equals the sum of the two interior opposite angles
   x = 32 + 53 = 85°

6. **x = 114°**
   The exterior angle equals the sum of the two interior opposite angles
   x = 70 + 44 = 114°

7. **x = 116°**
   The exterior angle equals the sum of the two interior opposite angles
   x = 54 + 62 = 116°

8. **x = 93°**
   The exterior angle equals the sum of the two interior opposite angles
   x = 59 + 34 = 93°

9. **x = 20 (corresponding angles are equal)**
   Corresponding angles are equal: 3x + 5 = 65
   3x = 60
   x = 20

10. **x = 37°; the angles are 37° and 74°**
    Exterior angle = sum of interior opposite angles: x + 2x = 111
    3x = 111, x = 37
    The angles are 37° and 74°