Diwali maths activities for IB Maths SL and HL: MYP / KS3: answers

IB Math Revision · MYP / KS3 (ages 11 to 14) · Teacher answers and notes

No calculator needed. Use π = 22/7 where a question says so.

Teacher notes

- Pitched at MYP and KS3 (ages 11 to 14). Every question works without a calculator; ask for a short method with each answer.
- Students can draw the octagon rangoli of task A on squared paper and colour it with rotational symmetry of order 4.

Starter

1. **4**
   - Two diagonals, one vertical line and one horizontal line.
2. **15**
   - 40 ÷ 8 = 5, and 3 × 5 = 15
3. **₹216**
   - 10% of 240 is 24.
   - 240 − 24 = 216
4. **540°**
   - A pentagon splits into 3 triangles: 3 × 180° = 540°

Task A: Rangoli patterns

a. **45°**
   - The exterior angles add up to 360°: 360 ÷ 8 = 45°

b. **135°**
   - 180° − 45° = 135°

c. **328 cm²**
   - Square: 20 × 20 = 400. Each corner triangle: ½ × 6 × 6 = 18.
   - 400 − 4 × 18 = 328

Task B: Diyas and lights

a. **154 cm²**
   - πr^2 = 22/7 × 7 × 7 = 154

b. **44 cm**
   - $2\pi r$ = 2 × 22/7 × 7 = 44

c. **50**
   - 3 + 4 + 5 = 12 parts, so one part is 120 ÷ 12 = 10.
   - Gold: 5 × 10 = 50

d. **₹45**
   - 5 × 6 = 30 hours.
   - 30 × 1.50 = 45

Extension

1. **91 dots**
   - 1 + 6 + 12 + 18 + 24 + 30 = 91

Every question is original and every answer was checked before publishing.