

# Plan our class trip – Glendalough or Newgrange?

MODULE 9 · MATHEMATICAL MODELING AND END-OF-YEAR REVIEW

REVIEW

## HOW TO ANSWER TODAY

- **Make change.** Change = what you paid – what it cost.  
Paid €10, cost €6.75 →  $€10 - €6.75 = €3.25$
- **Triangle area.** Area =  $\frac{1}{2} \times \text{base} \times \text{perpendicular height}$ . The height must be at right angles to the base.  
Base 6 cm, height 4 cm →  $\frac{1}{2} \times 6 \times 4 = 12 \text{ cm}^2$
- **Elapsed time.** Count up to the next hour, then in whole hours, then the remaining minutes. Add the parts.  
14:30 → 16:45: 30 min to 15:00, 1 h to 16:00, 45 min to 16:45 → 2 h 15 min

## WARM-UP

Compare the two trips for the 28 pupils in 5th class. Costs and times are given for each option – work out the totals in the empty cells, then decide which trip fits the €175 budget and the 9 am to 4 pm school day.

|                                                      | Glendalough          | Newgrange            |
|------------------------------------------------------|----------------------|----------------------|
| a. Bus per pupil ( $€280 \div 28$ / $€350 \div 28$ ) | €10                  | €12.50               |
| b. Entry per pupil                                   | €7                   | €9                   |
| c. Lunch per pupil                                   | €5                   | €5                   |
| d. TOTAL per pupil (€)                               | <input type="text"/> | <input type="text"/> |
| e. Travel each way                                   | 1 h 15 min           | 50 min               |
| f. Time on site                                      | 5 h                  | 4 h 30 min           |
| g. Total day length (there + on site + back)         | <input type="text"/> | <input type="text"/> |
| h. Fits €175 budget? (Y/N)                           | <input type="text"/> | <input type="text"/> |

## PRACTICE

- 1 Cian is wrapping a present-shaped box for his cousin's birthday. The box is a cuboid that measures **6 cm** by **8 cm** by **10 cm**. What is the total surface area of wrapping paper he needs to cover it exactly?

- 2 Daithí cycles **48 km** along the canal path over **6 hours** during his Easter holidays. He keeps a steady pace the whole way. What is his average speed in km per hour?

A car travels 48 km in 6 hours. What is its average speed?