ZiloAcademy

✨ Grade 10 Maths — Mathematical Modelling ✨

Name: Demo **Date:** 26/11/2026

1. Plan A costs $90 plus $3 per GB. Plan B costs $34 plus $7 per GB. For how many GB do the plans cost the same?

2. Plan A costs $52 plus $10 per GB. Plan B costs $22 plus $12 per GB. For how many GB do the plans cost the same?

3. A ball's height is modelled by $h = -5t^2 + 10t$ (metres, seconds). After how many seconds does it land?

4. A bacteria colony of 800 doubles every 2 hours. Using P = 800 × 2^(t/2), how many bacteria are there after 6 hours?

5. Plan A costs $34 plus $7 per GB. Plan B costs $16 plus $13 per GB. For how many GB do the plans cost the same?

6. Plan A costs $66 plus $11 per GB. Plan B costs $34 plus $13 per GB. For how many GB do the plans cost the same?

7. A ball's height is modelled by $h = -5t^2 + 30t$ (metres, seconds). After how many seconds does it land?

8. Plan A costs $47 plus $9 per GB. Plan B costs $27 plus $10 per GB. For how many GB do the plans cost the same?

9. A bacteria colony of 300 doubles every 4 hours. Using P = 300 × 2^(t/4), how many bacteria are there after 16 hours?

10. A bacteria colony of 600 doubles every 4 hours. Using P = 600 × 2^(t/4), how many bacteria are there after 16 hours?