

1. Plan A: \$30 flat. Plan B: \$10 + \$2 per GB. Write both equations.

A constant; B linear

Answer: A: $y = 30$; B: $y = 2x + 10$

2. Same plans: when do they cost the same?

$$2x + 10 = 30$$

Answer: 10 GB

3. Gym A: \$50 join + \$20/mo. Gym B: \$30/mo. Equations?

A: $20x + 50$; B: $30x$

Answer: A: $y = 20x + 50$; B: $y = 30x$

4. Same gyms: break-even month?

$$20x + 50 = 30x$$

$$50 = 10x$$

Answer: 5 months

5. After break-even, which gym is cheaper? Why?

A grows 20/mo vs B's 30/mo

Answer: Gym A - slower rate

6. Printer A: \$120 + \$0.05/page. Printer B: \$60 + \$0.10/page. Break-even pages?

$$0.05p + 120 = 0.10p + 60$$

$$60 = 0.05p$$

Answer: 1200 pages

7. Job A pays \$400/wk flat. Job B pays \$250 + \$15 per sale. Sales to match A?

$$250 + 15s = 400$$

$$15s = 150$$

Answer: 10 sales

8. Two candles: A is 10 in burning 1 in/hr; B is 8 in burning 0.5 in/hr. When are they equal?

$$-1t + 10 = -0.5t + 8$$

$$2 = 0.5t$$

Answer: $t = 4$ hr (both 6 in)

9. Car rental: A charges \$40 + \$0.25/mi; B charges \$65 flat. For a 120-mile day, which is cheaper and by how much?

$$A: 40 + 0.25(120) = 70$$

$$B: 65$$

Answer: B by \$5

10. Tutoring: A charges \$22/hr. B charges a \$36 registration + \$16/hr. For how many hours is A the better deal?

$$22h < 16h + 36$$

$$6h < 36, h < 6$$

Answer: fewer than 6 hours