Name _____

AI Model Efficiency Math Problems Answer Key

Problem 1 - Small model = 2 GB | Big model = 200 GB | 200 ÷ 2 = **100**
Answer: 100 small models fit in the space of one big model.

Problem 2 - Laptop = 64 GB | Small model = 2 GB → 64 ÷ 2 = **32** | Big model = 200 GB → ❌ doesn't fit
Answer: 32 small models could fit; a big model would not fit.

Problem 3 - Small = 1 sec × 20 = **20 sec** | Big = 5 sec × 20 = **100 sec**
Answer: Small = 20 seconds; Big = 100 seconds.

Problem 4 - Smartphone = 10 GB | Small model = 2 GB → 10 ÷ 2 = **5** | Big model = 200 GB → ❌ doesn't fit
Answer: Cannot fit a big model; can fit 5 small models.

Problem 5 –

Server runs 4 big models | 4 × 200 GB = 800 GB | 800 ÷ 2 = **400 small models**
Answer: The server could run 400 small models instead of 4 big models.

Problem 6 - Storage = 1,000 GB | Small = 1,000 ÷ 2 = **500** | Big = 1,000 ÷ 200 = **5**
Answer: 500 small models or 5 big models.

Problem 7 - 10 hours | Small = 0.5 × 10 = **5 kWh** | Big = 5 × 10 = **50 kWh**
Answer: Small = 5 kWh; Big = 50 kWh.

Problem 8 -

Time = 30 min = 1,800 sec | Small = 1,800 ÷ 1 = **1,800** | Big = 1,800 ÷ 5 = **360**
Answer: Small = 1,800 questions; Big = 360 questions.