Solving Rate Problems

ANSWER KEY • Amplify Alignment: Grade 6 Accelerated, Unit 2, Lesson 16

Problems 1–2: Tortoise A walks 2 feet in 8 seconds. Tortoise B walks 3 feet in 10 seconds. Each tortoise keeps walking at its speed.

1. **How far does each tortoise walk in 40 seconds?**

   Tortoise A: **10 feet** Tortoise B: **12 feet**

2. **The tortoises start at the same place and walk in the same direction. How far apart will they be after 2 minutes? Show or explain your thinking.**

   6 feet. 2 minutes = 120 seconds. A walks 120 ÷ 8 × 2 = 30 feet. B walks 120 ÷ 10 × 3 = 36 feet. 36 – 30 = 6.

3. **A horse gallops 150 meters in 10 seconds.**

   a. At this rate, how long will it take the horse to gallop 225 meters? **15 seconds**

   b. How far will the horse gallop in 18 seconds? **270 meters**

4. **Snail A travels 3 inches in 5 minutes. Snail B travels 5 inches in 8 minutes. Each snail keeps a constant speed.**

   a. How far does Snail A travel in 40 minutes? Show your thinking.

   24 inches (40 ÷ 5 = 8; 8 × 3 = 24)

   b. How far does Snail B travel in 40 minutes? Show your thinking.

   25 inches (40 ÷ 8 = 5; 5 × 5 = 25)

   c. If the snails start at the same place and travel in the same direction, how far apart will they be after 120 minutes?

   3 inches. A travels 24 × 3 = 72 inches; B travels 25 × 3 = 75 inches.

5. Nora reads 18 pages in 30 minutes. Eli reads 14 pages in 20 minutes. Both read at a constant rate.

a Pages Nora reads in 1 hour: **36**

b Pages Eli reads in 1 hour: **42**

c Who reads more quickly? **Eli**

Problems 6–8: Ava types 900 words in 20 minutes. Ben types 500 words in 10 minutes. Cy types 240 words in 6 minutes. Each person types at a constant rate.

6. Complete the tables to show the number of words each person can type.

Ava

Words	Time (min)
45	1
1,350	30
2,025	45

Ben

Words	Time (min)
50	1
1,500	30
2,250	45

Cy

Words	Time (min)
40	1
1,200	30
1,800	45

7. Who types at the fastest rate? Show or explain your thinking.

Ben. He types 50 words per minute. Ava types 45 and Cy types 40.

8. How long would it take Ava to type 2,700 words? Explain your thinking.

60 minutes. Ava types 45 words per minute, and 2,700 ÷ 45 = 60.