

Unit 5: Real World Applications
Post Test – Version A

Solve each question. Round your answer to the nearest hundredth when needed.

1. It takes Perry eight hours to pick forty bushels of apples. Natalie can pick the same amount in ten hours. Find how long it would take them if they worked together.

4.44 hrs

2. Working alone, Scott can pick forty bushels of apples in 9 hours. One day his friend Jose helped him and it only took 5.14 hours. Find how long it would take Jose to do it alone.

11.98 hours

3. A freight train and a passenger train left Washington at the same time. The trains traveled in opposite directions. The passenger train traveled 30 mph faster than the freight train. After 19 hours they were 1330 miles apart. Find the freight train's speed.

20 mph

4. Chelsea left Scott's house and traveled toward the lake. Lisa left three hours later traveling at 75 mph in an effort to catch up to Chelsea. After traveling for two hours Lisa finally caught up. Find Chelsea's average speed.

30 mph

5. Lisa wants to make 10 gallons of a 55% saline solution by mixing together an 85% saline solution and a 35% saline solution. How much of each solution must she use?

4 gal of 85%

6 gal of 35%

6. Kim wants to make 15 gallons of a 47% alcohol solution by mixing together a 35% alcohol solution and an 80% alcohol solution. How much of each solution must she use?

11 gal of 35%

4 gal of 80%

7. Find the value of two numbers if their sum is 19 and their difference is 3.

11

8

8. Krystal and Willie are selling cheesecakes for a school fundraiser. Customers can buy New York style cheesecakes and apple cheesecakes. Krystal sold 14 New York style cheesecakes and 4 apple cheesecakes for a total of \$300. Willie sold 13 New York style cheesecakes and 5 apple cheesecakes for a total of \$303. Find the cost of each of one New York style cheesecake and one apple cheesecake.

\$16/NY style

\$19/Apple

9. Daniel and Denise each improved their yards by planting daylilies and shrubs. They bought their supplies from the same store. Daniel spent \$89 on 6 daylilies and 11 shrubs. Denise spent \$91 on 7 daylilies and 11 shrubs. Find the cost of one daylily and the cost of one shrub.

\$ 2 / daylily

\$ 7 / shrub

10. The school that James goes to is selling tickets to a choral performance. One the first day of ticket sales the school sold 8 adult tickets and 3 child tickets for a total of \$79. The school took in \$98 on the second day by selling 4 adult tickets and 6 child tickets. What is the price of each of one adult ticket and one child ticket?

\$5 / adult

\$13 / child

11. The state fair is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 4 vans and 14 buses with 582 students. High School B rented and filled 2 vans and 14 buses with 564 students. Every van had the same number of students in it as did the buses. How many students can a van carry? How many students can a bus carry?

9 per Van

39 per Bus

12. Traveling with the current a certain boat went 15 km/h. Against the same current it only went 1 km/h. Find the speed of the boat in still water and the speed of the current.

Boat 8 km/h

Current 7 km/h

13. A plane traveled 1080 kilometers each way to Seattle and back. The trip there was with the wind. It took 10 hours. The trip back was into the wind. The trip back took 20 hours. Find the speed of the plane in still air and the speed of the wind.

Plane 81 km/h

Wind 27 km/h

14. Jennifer bought 7 shirts for a total of \$47. Tee shirts cost \$7 and long sleeve shirts cost \$6. How many of each type of shirt did she buy?

5 Tee Shirts

2 Long Sleeve

15. Wilbur's Printing Inc. has two types of printing presses: Model A and Model B. Model A can print 60 books per day and Model B can print 75 books per day. Altogether Wilbur has 15 printing presses. If he can print 975 books in a day, then how many of each press does he have?

10 Model A

5 Model B