

Unit 5: Real World Applications
PRE-TEST

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

1. Working alone, it takes Tim 12 minutes to sweep a porch. Chelsea can sweep the same porch in 10 minutes. How long would it take if they worked together?

2. Working alone, Kayla can oil the lanes in a bowling alley in nine hours. One day Doug helped her, and it only took 4.24 hours. How long would it take Doug to do it alone?

3. An Air Force plane left Paris and flew east at an average speed of 235 km/h. Sometime later a cargo plane left flying in the opposite direction with an average speed of 465 km/h. After the Air Force plane had flown for seven hours the planes were 4900 km apart. How long did the cargo plane fly?

4. Kali left home and drove toward the desert at an average speed of 36 mph. Wilbur left two hours later and drove in the same direction but with an average speed of 60 mph. How long did Kali drive before Wilbur caught up?

5. Jill wants to make 15 fluid ounces of a 29% saline solution by mixing a 20% saline solution and a 65% saline solution. How much of each solution must she use?

6. Mark asked you to make 9 gallons of fruit punch that contains 15% fruit juice by mixing some amount of Brand A fruit punch and some amount of Brand B fruit punch. Brand A contains 25% fruit juice and Brand B contains 10% fruit juice. How much of each do you need?

7. The difference between the two numbers is 3. Their sum is 25. What are the numbers?

8. Amanda and Alberto are selling cheesecakes for a school fundraiser. Customers can buy pecan cheesecakes and chocolate marble cheesecakes. Amanda sold 3 pecan cheesecakes and 3 chocolate marble cheesecakes for a total of \$87. Alberto sold 10 pecan cheesecakes and 3 chocolate marble cheesecakes for a total of \$185. Find the cost each of one pecan cheesecake and one chocolate marble cheesecake.

9. Karlee and Emily each improved their yards by planting daylilies and geraniums. They bought their supplies from the same store. Karlee spent \$61 on 10 daylilies and 3 geraniums. Emily spent \$117 on 10 daylilies and 11 geraniums. What is the cost of one daylily and the cost of one geranium?

10. The school that Jose goes to is selling tickets to the annual dance competition. On the first day of ticket sales the school sold 13 senior citizen tickets and 6 student tickets for a total of \$198. The school took in \$197 on the second day by selling 10 senior citizen tickets and 11 student tickets. What is the price for each, one senior citizen ticket and one student ticket?

11. Chicago is a popular field trip destination. This year the senior class at HAHS and the senior class at Bismarck both planned trips there. The senior class at HAHS rented and filled 6 vans and 11 buses with 690 students. Bismarck rented and filled 4 vans and 2 buses with 172 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?

12. Going down the river a boat went 11 km/h. Going up the river it only went 1 km/h. Find the speed of the boat in still water and the speed of the current.

13. A boat traveled 72 miles each way downstream and back. The trip downstream took 4 hours. The trip back took 18 hours. Find the speed of the boat in still water and the speed of the current.

14. Eugene bought 6 books for a total of \$160. Math books cost \$22 and English books cost \$29. How many of each type of book did he buy?

15. At Stephanie's Printing Company LLC there are two kinds of printing presses: Model A which can print 50 books per day and Model B which can print 35 books per day. The company owns 8 total printing presses and this allows them to print 355 books per day. How many of each type of press do they have?