5-8 Fractional Coefficients Word Problems

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Pump A can unload the Lunar Petro in 30 h and pump B can unload it in 24 h. Because of an approaching storm, both pumps were used. How long did they take to empty the ship?
2. An old conveyor belt takes 21 h to move one day’s coal output from the mine to a rail line. A new belt can do it in 15 h. How long does it take when both are used at the same time?
3. How much pure antifreeze must be added to 12 L of a 40% solution of antifreeze to obtain a 60% solution?
4. How much water must be evaporated from a 300 L tank of a 2% salt solution to obtain a 5% solution?
5. The river boat Delta Duchess paddled upstream at 12 km/h, stopped for 2 h of sightseeing, and paddled back at 18 km/h. How far upstream did the boat travel if the total time for the trip, including the stop, was 7 h?
6. Pam jogged up a hill at 6 km/h and then jogged back down at 10 km/h. How many kilometers did she travel in all if her total jogging time was a 1 h 20 min?
7. The Computer Club invested $2200, part at 4.5% interest and the rest at 7%. The total annual interest earned was $144. How much was invested at each rate?
8. A pharmacist wishes to make 1.8 L of a 10% solution of boric acid by mixing 7.5% and 12% solutions. How much of each type of solution should be used?
9. The county’s new asphalt paving machine can surface 1 km of highway in 10 h. A much older machine can surface 1 km in 18 h. How long will it take them to surface 21 km of highway if they start at opposite ends and work day and night?
10. Pipes A and B can fill a storage tank in 8 h and 12 h, respectively. With the tank empty, pipe A was turned on at noon, and then pipe B was turned on at 1:30 pm. At what tine was the tank full?
11. Sharon drove for part of a 150 km trip at 45 km/h and the rest of the trip at 75 km/h. How far did she drive at each speed if the entire trip took her 2 h 40 min?
12. A commercial jet can fly from San Francisco to Dallas in 3 h. A private jet can make the same trip in 3 ½ h. If the two planes leave San Francisco at noon, after how many hours is the private jet twice as far from Dallas as the commercial jet?
13. A car radiator is filled with 5 L of a 25% antifreeze solution. How many liters must be drawn off and replaced by a 75% antifreeze solution to leave the radiator filled with a 55% antifreeze solution?
14. The rail line between two cities consists of two segments, one 96 km longer than the other. A passenger train averages 60 km/h over the shorter segment, 120 km/h over the longer, and 100 km/h for the entire trip. How far apart are the cities?
15. 13 1/3 hours
16. 8 ¾ hours
17. 6 L
18. 180 L
19. 36 km
20. 10 km
21. $400 at 4.5 % and $1800 at 7%
22. O.8 L of 7.5% and 1 L of 12%
23. 135 h
24. 5:24 pm
25. 75 km at 45 km/h and 75 km at 75 km/h
26. 
27. 3 L
28. 160 km