Name _____ Class _____ Date _____

9-3 Practice

Solving Rational Equations

Solve each equation. Check each solution.

1. $\frac{x}{3}+\frac{x}{2}=10$

2. $\frac{1}{x}-\frac{x}{9}=0$

3. $-\frac{4}{x+1}=\frac{5}{3x+1}$

4. $\frac{4}{x}=\frac{x}{4}$

5. $\frac{3x}{4}=\frac{5x+1}{3}$

6. $\frac{3}{2x-3}=\frac{1}{5-2x}$

7. $\frac{x-4}{3}=\frac{x-2}{2}$

8. $\frac{2x-1}{x+3}=\frac{5}{3}$

9. $\frac{2y}{5}+\frac{2}{6}=\frac{y}{2}-\frac{1}{6}$

10. $\frac{1}{2x+2}+\frac{5}{x^2-1}=\frac{1}{x-1}$

11. $\frac{2}{x+3}+\frac{5}{3-x}=\frac{6}{x^2-9}$

12. An airplane flies from its home airport to a city 510 mi away and back. The total flying time for the round-trip flight is 3.9 h. The plane travels the first half of the trip at 255 mi/h with no wind.

a. How strong is the wind on the return flight? Round your answer to them nearest tenth.

b. Is the wind on the return flight a headwind or a tailwind?

Solve each equation. Check each solution.

13. $\frac{x-1}{6}=\frac{x}{4}$

14. $\frac{x-2}{10}=\frac{x-7}{5}$

15. $\frac{4}{x+3}=\frac{10}{2x-1}$

16. $\frac{3}{3-x}=\frac{4}{2-x}$

17. $\frac{3y}{5}+\frac{1}{2}=\frac{y}{10}$

18. $5-\frac{4}{x+1}=6$

19. $\frac{2}{3}+\frac{3x-1}{6}=\frac{5}{2}$

20. $\frac{4}{x-1}=\frac{5}{x-2}$

21. $\frac{1}{x}-\frac{2}{x+3}=0$

Name _____ Class _____ Date _____

9-3 Practice (continued)

Solving Rational Equations

Solve each equation for the given variable.

22. $h = \frac{2A}{b}; b$

23. $\frac{h}{t} + 16t = v_o; h$

24. $\frac{xy}{z} + 2x = \frac{z}{y}; x$

25. A fountain has two drainage valves. With the first valve open, the fountain drains completely in 4 h. With only the second valve open, the fountain drains completely in 5.25 h. About how many hours will the fountain take to drain with both valves open? Round your answer to the nearest tenth.

26. A pen factory has two machines making pens. Together, the machines make 1500 pens during an 8-h shift. Machine A makes pens at 2.5 times the rate of Machine B. About how many hours would Machine A need to make 1500 pens by itself? Round your answer to the nearest tenth.