

Unit 1: Number Skills Day 5

Math 9 Principles

1-5: I can multiply or divide two or more fractions, remembering to simplify before evaluating. I always reduce!

Write the reciprocal of each rational.

1. $\frac{3}{5}$

2. -2

3. $-\frac{5}{9}$

4. $1\frac{1}{2}$

5. $-2\frac{1}{3}$

6. $\frac{2}{7}$

7. -1

8. $-3\frac{1}{2}$

Evaluate. Answer as a fraction in lowest terms. Show all work.

9. $2 \div \frac{3}{2}$

10. $\frac{3}{2} \div \frac{5}{4}$

11. $1\frac{1}{4} \div 3\frac{1}{3}$

12. $-2\frac{1}{2} \div 1\frac{1}{6}$

13. $-\frac{3}{8} \div -\frac{7}{12}$

14. $3\frac{2}{3} \div 1\frac{3}{8}$

15. $1\frac{3}{4} \div -\frac{9}{10}$

16. $2\frac{1}{3} \div 1\frac{1}{4}$

17. $\frac{8}{15} \cdot \frac{21}{16}$

18. $-2\frac{1}{4} \div \frac{15}{32} \div \frac{36}{25}$

19. $\frac{4}{9} \div 1\frac{1}{5} \div \frac{10}{27}$

20. $-2\frac{1}{3} \cdot -\frac{12}{25} \div \frac{16}{15}$

Solve the following word problems. Write the operation to be used, then evaluate.

21. A $9\frac{3}{4}$ inch length must be divided into $\frac{3}{16}$ inch lengths. How many $\frac{3}{16}$ inch lengths do you get?

22. A wall has dimensions $7\frac{1}{2}$ feet by $2\frac{2}{5}$ feet. How many square feet is the wall's area?
Hint: area = length x width.

23. A rectangular hallway has dimensions 3 feet by 27 feet. It is to be tiled with square tiles, each with the dimensions $\frac{3}{4}$ feet by $\frac{3}{4}$ feet. How many tiles will you need?
Hint: Divide the length and width by $\frac{3}{4}$.

24. If it takes, on average, 2 minutes and 15 seconds to run a lap around a block, how many times around the block can you run in 1 hour and 12 minutes, assuming a constant speed?
Hint: Convert all times to minutes – use fractions where necessary.

25. Travelling at 45km/h, how many kilometres are travelled in 2 hours and 12 minutes?
Hint: Convert time to a fraction in hours.

26. How many times greater is $5\frac{2}{5}$ than $\frac{9}{20}$? Hint: To calculate how many times greater a number is by another, divide the larger by the smaller number.

27. The Atlantic ocean covers about one sixth the earth's surface, the Pacific ocean about two fifths, and all other oceans combined cover one tenth the earth's surface. What fraction of the earth's surface is covered by oceans?
28. A recipe calls for one third of a bowl of flour and one quarter of a bowl of baking powder, then to fill the remainder of the bowl with milk. What fraction of the bowl is filled with milk?
29. About one half of Canada is covered in forest, and about one twelfth is covered in fresh water. What fraction of Canada is not covered in either forest or fresh water?
30. Insects account for about five sixths of known animal species. About one quarter of insect species are beetles. What fraction of all animal species are beetles?
31. How many people can you serve with eight pizzas if each person gets exactly four-fifths of a pizza?
32. A plot of land is $7\frac{4}{5}$ kilometres in width. If you wish to divide this width up into equal lengths, each $\frac{3}{5}$ of a kilometre in length, how many portions will you have?
33. It takes $\frac{3}{4}$ of a minute to do a lap of a track on your bike travelling at a constant speed. At that same constant speed, how many laps could you do in $\frac{1}{2}$ hour?