

Practice Problems for MTE 1 – Operations with Positive Fractions

1. If you have four quarters, three dimes, two nickels, and two pennies, what fraction of the whole coin collection is in dimes?
2. Write $5\frac{7}{8}$ as an improper fraction.
3. Write $\frac{29}{5}$ as a mixed number.
4. Express $3 \cdot 3 \cdot 3 \cdot 5 \cdot 5$ using exponents.
5. Find the prime factorization of 180. Express your answer in exponential form.
6. Write $\frac{24}{90}$ in simplest form.
7. Write the ratio of 14 days to 3 weeks in simplest form.
8. Write the ratio of 4 teachers to 134 students in simplest form.
9. Write the rate of 400 miles in 8 hours in simplest form.
10. Find the LCM for 8, 12, and 36.
11. Find the LCD for $\frac{1}{5}$, $\frac{1}{4}$, and $\frac{1}{9}$.
12. Enter the correct symbol (<, >, =). $\frac{3}{4} ? \frac{11}{15}$
13. Add or subtract. $\frac{3}{16} + \frac{5}{16}$
14. Add or subtract. $\frac{25}{64} - \frac{17}{64}$
15. Add or subtract. $4\frac{1}{4} - 2\frac{3}{4}$
16. Add or subtract. $\frac{3}{12} + \frac{4}{50}$
17. Add or subtract. $\frac{7}{18} - \frac{5}{24}$
18. Add or subtract. $41 - 23\frac{3}{7}$

19. Multiply. $\frac{12}{56} \cdot \frac{14}{42}$
20. Multiply. $1\frac{5}{16} \cdot \frac{3}{4}$
21. Divide. $\frac{\frac{4}{15}}{\frac{5}{6}}$
22. Divide. $4\frac{3}{7} \div 1\frac{2}{9}$
23. Simplify the expression. $\frac{3}{4} - \frac{2}{5} \cdot \frac{7}{12}$
24. Simplify the expression. $\frac{3}{4} + \frac{5}{9} \cdot \frac{12}{15}$
25. If 15 of the students are male and 18 of the students are female in a math class, what fractional part of the class is female?
26. The depth of tire tread on a new tire is $\frac{9}{32}$ inch. After two months use, $\frac{1}{16}$ inch has been worn off. What is the depth of the remaining tire tread?
27. If you lose $3\frac{1}{2}$ pounds the first week of your diet and $2\frac{2}{3}$ pounds the second week, how many pounds do you still need to lose to reach your goal of losing 10 pounds?
28. If you are paid \$5.50/hour for mowing yards, and you take $3\frac{1}{3}$ hours to mow a yard, how much money are you owed?
29. If a full oil barrel holds $53\frac{3}{4}$ gallons of oil, and $10\frac{3}{4}$ gallons are used every week, how many weeks will the oil last?
30. Your new iPod Shuffle holds 500 songs. You have loaded 310 of your favorite tunes onto your iPod. Represent the number of songs on your iPod as a fraction of the total of number of songs it will hold. Simplify if possible.
31. A surgery patient needs to lose 24 pounds before her upcoming surgery. Your patient lost $6\frac{1}{2}$ pounds at the first 2 week checkup and $8\frac{2}{5}$ pounds at the next visit. How much more does the patient need to lose to achieve the weight lose needed for surgery?
32. You are purchasing the ingredients for your first cooking project in culinary school. You are making a new salmon dish. Salmon costs \$6 per pound. Find the cost of $3\frac{2}{3}$ pounds.
33. You have budgeted $\frac{2}{5}$ of your monthly income for rent and utilities. Your monthly income is \$2100.
- What amount have you budgeted for rent and utilities?
 - What amount is left over for other expenditures during the month

34. Your car uses $15\frac{1}{2}$ gallons of gasoline on a 310 mile trip. Find your car's miles per gallon.
35. The nurse's orders are to give the child $3\frac{1}{2}$ tablespoons of medicine per day in 4 equally divided doses. How much medicine is to be given at each dose?
36. To maintain financial aid, a student must pass at least $\frac{2}{3}$ of their attempted credits each semester. If you are taking 16 credits this semester, how many credits must you pass?