Simplify all answers and show your work!

1. Round to the nearest ten thousand: 945,324
2. Round to the nearest ten: 37,315

3. _______________________ is a shortcut for repeated multiplication.
4. _______________________ is a shortcut for repeated addition.
5. The denominator of a fraction tells us ________________________________.
6. Division is a shortcut for ________________________________.
7. Use front end rounding to estimate 27 + 684 + 1947 ________________________________.

Simplify.
8. \(3^4\)  
9. \(\sqrt{64}\)  
10. \(48 ÷ 3 • 2 ÷ 4 + (9 − 7)^2\)  
11. \(6 + 15 ÷ 5 − 12 ÷ \sqrt{4}\)

12. Draw a picture that represents \(\frac{2}{3}\)
13. Write \(\frac{7}{9}\) as an improper fraction.

14. Write \(\frac{33}{6}\) as a mixed number.

15. Is the number “1” considered prime, composite, neither, or both?
16. Find the prime factorization of 36.

17. Find all factors of 24.
18. Write \(\frac{18}{45}\) in lowest terms.

19. Determine whether the two fractions are equivalent or not equivalent: \(\frac{50}{60}, \frac{40}{48}\). Show your reasoning.

20. You purchase a used car with a down payment of $3500 and monthly payments of $150 for 3 years. How much total money did she pay for the car?
21. Gayle Smith takes a state car on a business trip and has to keep up with her mileage. At the start of the trip, the odometer reads 34,553 miles. The trip is 412 miles roundtrip.
   a) What does the odometer read once she’s returned from the trip?

   b) If gas costs $3 a gallon, how much did the gas cost for the trip?

   c) If she didn’t do any extra driving while on the trip, how many miles away from her starting point was her destination?

22. A farmer harvested 48,290 pounds of lemons from one grove and 23,710 pounds of lemons from another grove. The lemons were packed in boxes with 24 pounds of lemons in each box. How many boxes were needed to pack the lemons?

23. While shopping, you buy three shirts costing $39 each and two pairs of shoes costing $62 per pair. The tax on the items was $12.
   a) How much is the total purchase?
   b) If you pay the cashier in $20 bills, how many do you need to pay for the items?
   c) How much change will you receive from the cashier if you pay her as mentioned in part b?

24. A bottle of cough syrup contains 118 mL of syrup where one dose is 15mL.
   a) How many complete doses are in the bottle?
   b) How much cough syrup is left over?

25. At a camera store, you can buy three rolls of film for $15 or two rolls of film for $12.
   a) How much does each roll cost if you buy three for $15?
   b) How much does each roll cost if you buy two for $12?
   c) How much less does it cost per roll to buy three for $15?