

0.1 Proportional Reasoning Practice

1. For a silk screening project, Jan mixes a shade of orange ink. She uses a ration of red ink to yellow ink of 2:3 and yellow ink to white ink of 3:1.
 - a. How many mL of yellow ink would she need if she used 500mL of white ink?
 - b. How many mL of red ink would she need if she used 750mL of yellow ink?
2. What is the ratio of 250mL of grape juice concentrate to 1L of water? (Hint: convert both measurements to the same units. There are 1000mL in 1L)
3. The ratio of flour to shortening in a recipe for piecrust is 2:1. If a baker makes 30 cups of piecrust, how many cups of flour and shortening does he use?

4. A compound of two chemicals is mixed in the ratio of 3:10. If there are 45 litres of the compound, how much of each chemical is in the mixture?

5. Cheryl is an automotive repair technician. She mixes paint and thinner to apply to a bus. The instructions say to mix paint with thinner in the ratio of 5:3. If Cheryl needs 24L of paint/thinner mixture, how much of each will she use?

6. A hairdresser mixes brunette hair colouring for a client using 20mL hair colour, 40mL colour developer, 15mL conditioner and 3 mL thickener. Find the following ratios and simplify them to their lowest terms. Express your answers as fractions.
 - a. The ratio of hair colour to thickener.

 - b. The ratio of thickener to conditioner.

 - c. The ratio of colour developer to hair colour.

- d. If this treatment costs the customer \$68.00 and the cost of labour and materials used is \$14.20, what is the ratio of customer price to actual cost?
7. If the ratio of yellow pigment to blue pigment in a shade of green paint is 2:3, how many drops of yellow pigment will be needed if 12 drops of blue are used?
8. If 5cm on a map represents 2.5km of actual ground, how many centimetres would 15km of actual ground be on the map?
9. If a can of paint will cover 48m^2 of wall space, how many cans will you need to paint 220m^2 ?
10. The ratio of teeth on a pair of driving gears is 13:6, with the larger gear having more teeth. If the larger gear has 52 teeth, how many does the smaller gear have?

11. If Stephanie can type 75 words per minute, how long will it take her type an 800-word term paper?

12. If a machine can produce 85 parts in 40 minutes, how many parts can it produce in 8 hours?

13. Tom and Susan make \$180.00 from holding a garage sale. Because Tom contributed fewer items to the sale, the money is to be divided between Tom and Susan in the ratio of 1:2. How much money will each person receive?