

Name: \_\_\_\_\_

Due Date: \_\_\_\_\_

Teacher: \_\_\_\_\_

Parent Sign: \_\_\_\_\_

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- a) 5 cups flour : 2 cups sugar
- b) 10 cups flour : \_\_\_\_\_ cups sugar
- c) 15 cups flour : \_\_\_\_\_ cups sugar
- d) 20 cups flour : \_\_\_\_\_ cups sugar
2. Complete the table for the ratio dogs:cats = 4:3
- a) 4:3
- b) 8:\_\_\_\_\_
- c) \_\_\_\_\_:9
- d) 20:\_\_\_\_\_
3. A map uses a scale where 1 inch represents 6 miles. Make a table for inches:miles for 1, 2, 3, 5 inches.
4. The ratio of red marbles to blue marbles is 7:4. If there are 28 red marbles, how many blue marbles are there?
5. If the ratio of boys to girls in a club is 3:5 and there are 45 members total, how many boys are there?
6. Which of these ratios are equivalent to 2:5? Circle all that apply:
- a) 4:10
- b) 6:15
- c) 3:8
- d) 10:25
7. Fill in the blank to make an equivalent ratio:  $9:12 = \text{_____}:8$
8. Are the ratios 14:21 and 6:9 equivalent? Explain using multiplication or division (yes or no).
9. A paint mix requires 2 parts blue to 3 parts yellow. If you use 12 cups of yellow, how many cups of blue do you need?
10. A recipe calls for 3 eggs for every 2 cups of milk. If you want to use 8 eggs, how many cups of milk should you use? (You may use fractions if needed.)
11. The ratio of wings to legs on a farm is 5:12 (counting chickens and cows). If there are 60 wings, how many legs are there?
12. Complete the table for sandwich ingredients where ratio of slices of bread: slices of cheese is 2:1 for 1, 3, 5, and 10 sandwiches.
13. True or false: The ratios 9:12 and 3:4 are equivalent. Explain briefly.
14. Find the missing number:  $4:x = 10:25$
15. A juice mixture uses concentrate to water in a ratio of 1:4. If you need 30 cups of mixture total, how many cups of concentrate and how many cups of water are required?
16. A car model is built at a scale of 1:24 (model:real). If the real car is 12 feet long, how long is the model in inches? (1 foot = 12 inches)
17. Identify which pairs are NOT equivalent to 5:8:
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# Math Worksheet for 6th Grade

## Equivalent ratios

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- a) 10:16  
b) 15:24  
c) 20:32  
d) 25:40
18. Make an equivalent ratio to 11:7 with the first number 33.
19. A classroom has a ratio of textbooks to tablets of 5:2. If there are 70 textbooks, how many tablets?
20. Fill in the blank:  $7: x = 21:6$
21. A punch recipe uses 4 cups orange juice to 3 cups pineapple juice. To make a large batch with 40 cups of pineapple juice, how much orange juice is needed?
22. Complete the table for recipe scaling where cookies:sugar(g) = 12 cookies : 90 g sugar for 24, 36, and 6 cookies.
23. Which is larger: ratio 3:7 or ratio 2:5? Explain by comparing fractions.
24. The ratio of puppies to kittens at a shelter is 5:6. If there are 55 kittens, how many puppies are there?
25. Determine whether these two ratios are equivalent: 16:24 and 2:3. Show your answer (yes/no).
26. A mix of cement requires 1 part cement to 5 parts sand. If you need 48 parts of mixture total, how many parts are cement and how many are sand?
27. Fill in the missing number in this proportion:  $14:21 = 28: \underline{\hspace{2cm}}$
28. A smoothie recipe uses banana:strawberry ratio 2:5. If you plan to make 28 smoothies that each use 1 banana and 2.5 strawberries on average, is this consistent with the ratio? (Yes/No – explain briefly.) [Hint: check total bananas to strawberries implied by ratio vs given per smoothie.]
29. Complete the table: For every 3 notebooks there are 8 pencils. Give numbers for 3, 6, 12, and 15 notebooks.
30. A tailor uses a ratio of 9 buttons for every 4 shirts. If the tailor has 72 buttons, how many shirts can he make with exactly that ratio?
31. Find a number  $x$  so that  $5:x = 20:12$
32. A class has a ratio of students who ride the bus to students who walk of 7:3. If 21 students ride the bus, how many walk?
33. Two candy recipes: Recipe A uses candy to chocolate ratio 3:2. Recipe B uses 9:6. Are A and B equivalent? Explain.
34. Complete the table for scale: miles:kilometers approximated by 1 mile ? 1.6 km for 1, 5, 10, 25 miles.
35. Which of these shows an unequal ratio to 4:9?  
a) 8:18  
b) 12:27  
c) 16:36  
d) 20:45
36. A gardener plants flowers in the ratio of red:yellow = 2:3. If she plants 50 yellow flowers, how many red flowers should she plant to keep the ratio?

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37. Fill in the blank:  $18:24 = 3: \underline{\hspace{2cm}}$
38. A mixing tank requires vinegar to water in a ratio of 1:10. If you accidentally used 5 cups of vinegar and 30 cups of water, are the amounts equivalent? If not, which is too much or too little?
39. A school score ratio is 14 points to 7 fouls (14:7). Simplify this ratio and write an equivalent ratio with a first term of 2.
40. Complete the table where ratio of seeds to pots is 5:8 for pots 8, 16, 20, 40. Give seeds for each.
41. The ratio of juice concentrate to water is 3:11. If you want 56 cups of total drink, how many cups of concentrate and how many cups of water?
42. True or false: If two ratios simplify to the same simplest form, they are equivalent. Give a short reason.
43. Compare these two ratios and state which shows more chocolate per cookie: 7:10 or 9:15? (Which ratio has larger chocolate-to-cookie amount?)
44. Find the missing number:  $2.5: x = 5:20$
45. A recipe for 6 pancakes needs 1.5 cups of batter. Using equivalent ratios, how much batter is needed for 15 pancakes?
46. Complete the proportion by finding  $x$ :  $x:14 = 6:21$
47. A paint mixture uses red to white paint ratio 2:5. If a can must contain exactly 21 liters of paint while keeping the ratio, how many liters of red and white paint are required?
48. Which pair of ratios is unequal: 3:11 and 9:33? Explain.
49. Fill in the missing numbers in this table. Ratio of apples to oranges = 4:7
- a) 4 : 7
- b)  $\underline{\hspace{2cm}}$  : 14
- c) 12 :  $\underline{\hspace{2cm}}$
- d) 20 :  $\underline{\hspace{2cm}}$
50. The ratio of syrup to water for cordial is 3:20. If you pour 9 cups of syrup and 54 cups of water, are you keeping the ratio? Why or why not?