Exercise 20 Dividing Mixed Numbers by Mixed Numbers

Divide a mixed number by a mixed number by first rewriting both mixed numbers as improper fractions. Then, invert the divisor.

Divide. $4\frac{1}{4} \div 2\frac{1}{8}$

Rewrite the mixed numbers as improper fractions. $\frac{17}{4} \div \frac{17}{8}$

Invert the divisor and change the operation sign. $\frac{17}{4} \times \frac{8}{17}$

Cancel and multiply. $\frac{\cancel{17}^{1}}{\cancel{4}_{1}} \times \frac{\cancel{8}^{2}}{\cancel{17}_{1}} = \frac{2}{1} = 2$

Divide. Reduce your answer to lowest terms, if possible.

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

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

3. $7\frac{1}{8} \div 3\frac{5}{6} =$

4. $2\frac{2}{3} \div 4\frac{1}{6} =$

5. $7\frac{3}{4} \div 5\frac{1}{5} =$

6. $1\frac{4}{6} \div 3\frac{1}{9} =$

7. $1\frac{1}{9} \div 3\frac{3}{8} =$

8. $5\frac{1}{2} \div 4\frac{3}{7} =$

9. $1\frac{1}{4} \div 3\frac{1}{2} =$

10. $2\frac{2}{3} \div 4\frac{1}{7} =$

11. $4\frac{2}{3} \div 3\frac{3}{9} =$

12. $7\frac{4}{6} \div 1\frac{3}{4} =$

13. $3\frac{4}{9} \div 8\frac{1}{4} =$

14. $5\frac{4}{5} \div 6\frac{1}{5} =$

15. $10\frac{1}{7} \div 1\frac{3}{10} =$

16. $4\frac{4}{8} \div 3\frac{2}{3} =$

17. $12\frac{1}{3} \div 1\frac{7}{8} =$

18. $11\frac{1}{4} \div 10\frac{2}{3} =$

19. $9\frac{1}{9} \div 12\frac{9}{10} =$

20. $11\frac{7}{8} \div 10\frac{3}{4} =$

21. $13\frac{1}{3} \div 3\frac{1}{3} =$

Solve.

22. Andrea is training for a walk-a-thon in town. She can currently walk $4\frac{1}{4}$ miles per hour. How long will it take for her to walk $7\frac{1}{2}$ miles?

$7\frac{1}{2}$ miles $\div$ $4\frac{1}{4}$ miles per hour = _____ hours

Directions: Choose the one best answer to each item. Circle the number of the correct answer.

23. Deanna and Jim can bike at a pace of $15\frac{3}{4}$ miles per hour. How long will it take them to travel $50\frac{2}{5}$ miles?

(1) $2\frac{3}{4}$ hours
(2) $3\frac{1}{5}$ hours
(3) $3\frac{2}{5}$ hours
(4) 4 hours
(5) $4\frac{1}{2}$ hours

24. If Jim and Deanna increase their pace by 3 mile per hour, what will their pace be? How many hours a day will they ride in order to travel 100 miles per day?

(1) $12\frac{3}{4}$ mph; about 8 hours
(2) $18\frac{3}{4}$ mph; about $5\frac{1}{2}$ hours
(3) $12\frac{3}{4}$ mph; about $8\frac{1}{2}$ hours
(4) $18\frac{3}{4}$ mph; about $5\frac{1}{3}$ hours
(5) 20 mph; about 5 hours

25. If I can walk at a pace of $3\frac{1}{2}$ miles per hour, how long will it take me to walk $11\frac{1}{2}$ miles?

(1) 3 hours
(2) $3\frac{2}{7}$ hours
(3) 4 hours
(4) $4\frac{1}{7}$ hours
(5) $4\frac{1}{2}$ hours

26. If I increase my pace by $\frac{1}{4}$ mile per hour, how many miles per hour can I now walk?

(1) 4 miles per hour
(2) $4\frac{3}{8}$ miles per hour
(3) $4\frac{1}{2}$ miles per hour
(4) $3\frac{3}{4}$ miles per hour
(5) $4\frac{1}{4}$ miles per hour

27. A local artist takes approximately $13\frac{3}{4}$ hours to complete a portrait. He worked on one portrait for $5\frac{1}{2}$ days. How many hours per day did he devote to this one portrait?

(1) 1 hour per day
(2) $1\frac{3}{4}$ hours per day
(3) $2\frac{1}{2}$ hours per day
(4) $3\frac{1}{2}$ hours per day
(5) 4 hours per day

28. Joel buys $8\frac{3}{4}$ pounds of pasta salad for a family picnic. He wants to put the salad in small containers that each hold $1\frac{3}{4}$ pound. How many containers will he use?

(1) 8 containers
(2) 7 containers
(3) 6 containers
(4) 5 containers
(5) 4 containers

29. If Rhonda walks at a pace of $2\frac{1}{3}$ miles per hour, how long will it take her to walk $10\frac{1}{2}$ miles?

(1) 4 hours
(2) $4\frac{1}{2}$ hours
(3) $4\frac{1}{4}$ hours
(4) $4\frac{3}{4}$ hours
(5) 5 hours

30. There are $24\frac{3}{4}$ pounds of coffee beans in a barrel at the gourmet shop. The clerk needs to make up packages of coffee weighing $1\frac{1}{4}$ pounds each. How many full packages can the clerk make?

(1) 24 packages with some leftover
(2) 75 packages with some leftover
(3) 15 packages with some leftover
(4) 19 packages with some leftover
(5) 20 packages with some leftover