

Homework & Practice 9-8

Model Addition and Subtraction of Mixed Numbers

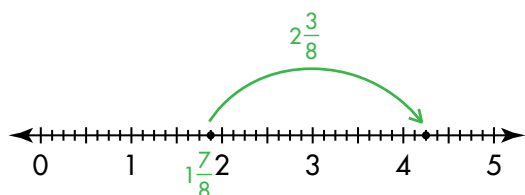


You can use fraction strips or number lines to show the addition and subtraction of mixed numbers.

Another Look!

Use a number line to find $1\frac{7}{8} + 2\frac{3}{8}$.

Use a number line for eighths. Start at $1\frac{7}{8}$.



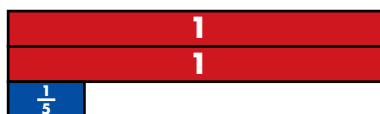
To add, move $2\frac{3}{8}$ to the right.

Write the sum as a fraction or a mixed number.

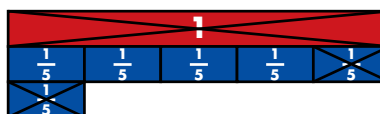
So, $1\frac{7}{8} + 2\frac{3}{8} = 4\frac{2}{8}$.

Use fraction strips to find $2\frac{1}{5} - 1\frac{2}{5}$.

Model the number you are subtracting from, $2\frac{1}{5}$.



Rename $2\frac{1}{5}$ as $1\frac{6}{5}$. Cross out one whole and $\frac{2}{5}$ to show subtracting $1\frac{2}{5}$.



Write the difference as a fraction.

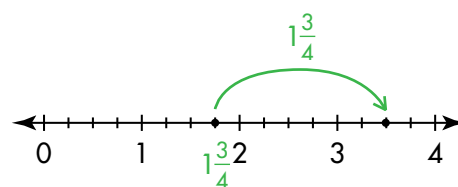
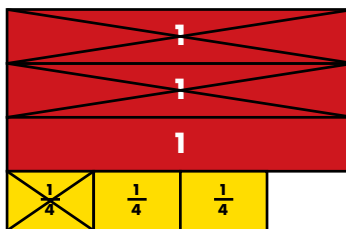
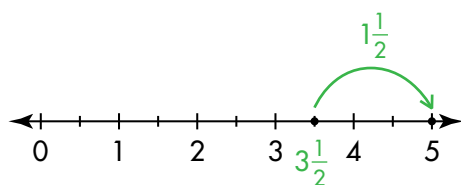
So, $2\frac{1}{5} - 1\frac{2}{5} = \frac{4}{5}$.

For 1–9, use fraction strips or number lines to find each sum or difference.

1. $3\frac{1}{2} + 1\frac{1}{2}$

2. $3\frac{3}{4} - 2\frac{1}{4}$

3. $1\frac{3}{4} + 1\frac{3}{4}$



4. $3\frac{4}{5} - 1\frac{2}{5}$

5. $5\frac{2}{6} + 3\frac{5}{6}$

6. $10\frac{2}{8} - 7\frac{5}{8}$

7. $2\frac{5}{12} + 4\frac{3}{12}$

8. $12\frac{1}{3} - 5\frac{2}{3}$

9. $2\frac{2}{4} + 6\frac{3}{4}$

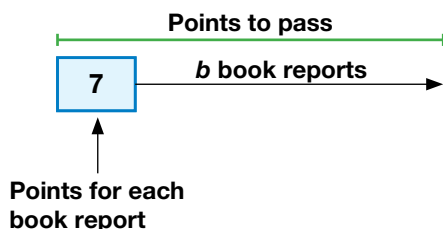
For 10–12, use the table at the right.

10. How many inches longer is a Hercules beetle than a ladybug?
11. What is the difference between the largest and the smallest stag beetles?
12. How long are a Hercules beetle and a ladybug combined?



Beetles by Length	
Beetle	Length in Inches
Hercules beetle	$6\frac{3}{4}$
Ladybug	$\frac{1}{4}$
Stag beetle	$1\frac{1}{8}$ to $2\frac{4}{8}$

13. Stan needs 90 points to get a passing grade in class. He already has 6 points. If each book report is worth 7 points, what is the fewest number of book reports Stan can do and still pass the class?



14. **Higher Order Thinking** Nicole, Tasha, Maria, and Joan each walk to school from home. Nicole walks $1\frac{11}{12}$ miles. Tasha walks $2\frac{1}{12}$ miles. Maria walks $1\frac{7}{12}$ miles. Joan walks $2\frac{2}{12}$ miles. How can you find how much farther Joan walks to school than Maria?

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15. Alyssa used $1\frac{2}{3}$ gallons of white paint for the ceiling of her kitchen and $1\frac{2}{3}$ gallons of white paint for her bedroom. She used $3\frac{2}{3}$ gallons of green paint for the walls of her kitchen and $1\frac{2}{3}$ gallons of yellow paint for the walls of her bedroom. How much more green paint did Alyssa use than white paint?
 - (A) $\frac{1}{3}$ gallon
 - (B) $\frac{2}{3}$ gallon
 - (C) 1 gallon
 - (D) 2 gallons
16. Jerome's rain gauge showed $13\frac{9}{10}$ centimeters of rain fell last month. This month, the rain gauge measured $15\frac{3}{10}$ centimeters. How many more centimeters of rain fell this month than last month?
 - (A) $29\frac{1}{5}$ centimeters
 - (B) $15\frac{3}{10}$ centimeters
 - (C) $2\frac{2}{5}$ centimeters
 - (D) $1\frac{4}{10}$ centimeters