

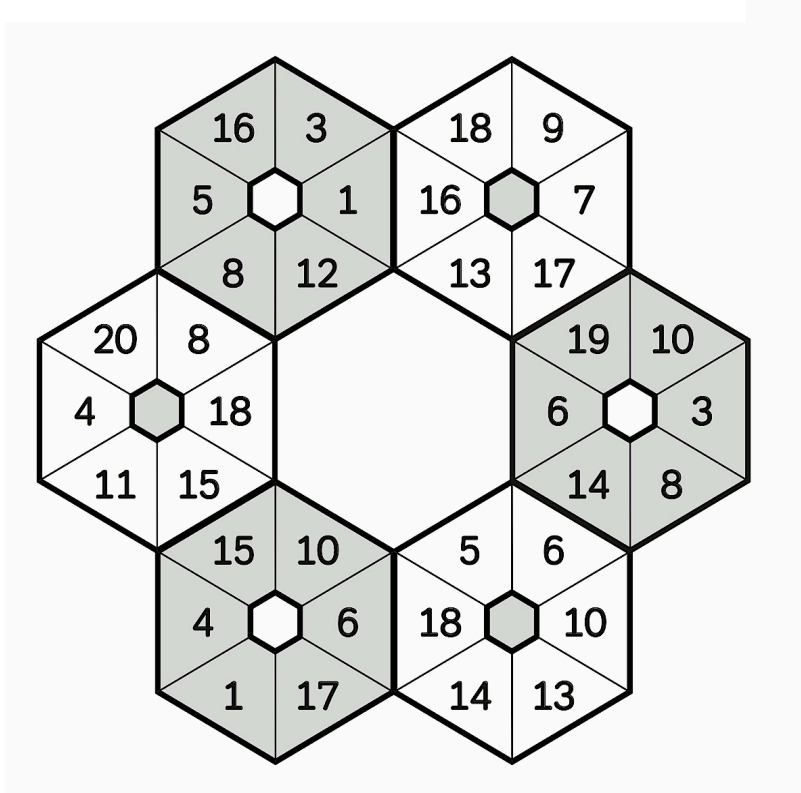
Virtual Grade 3-5 Workshop
Kansas City, MO
July 2020



Greg Tang's



Fractions & Measurement



I. Fraction Fundamentals

II. Fraction Operations

III. Reasoning & Word Problems

IV. Measurement

Name: _____

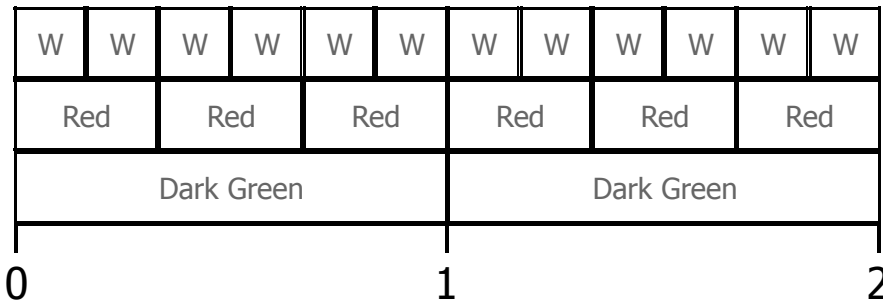
1. Which rod is $\frac{1}{3}$? _____

4. Write $\frac{1}{6}$ on the number line.

2. Write $\frac{1}{3}$ on the number line.

5. Write $\frac{7}{6}$ on the number line.

3. Which rod is $\frac{1}{6}$? _____



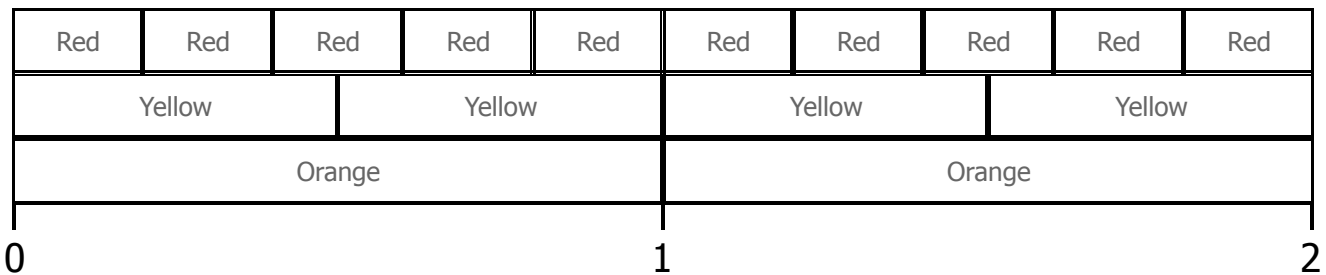
6. Which rod is $\frac{1}{2}$? _____

9. Write $\frac{1}{5}$ on the number line.

7. Write $\frac{1}{2}$ on the number line.

10. Write $\frac{6}{5}$ on the number line.

8. Which rod is $\frac{1}{5}$? _____



Name: _____

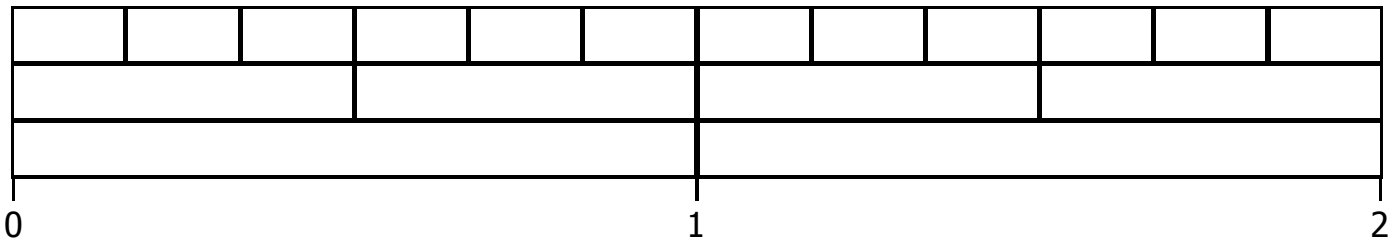
1. Write $\frac{1}{2}$ on the number line.

4. Write $\frac{4}{6}$ on the number line.

2. Write $\frac{1}{6}$ on the number line.

5. Write $\frac{7}{6}$ on the number line.

3. Write $\frac{3}{2}$ on the number line.



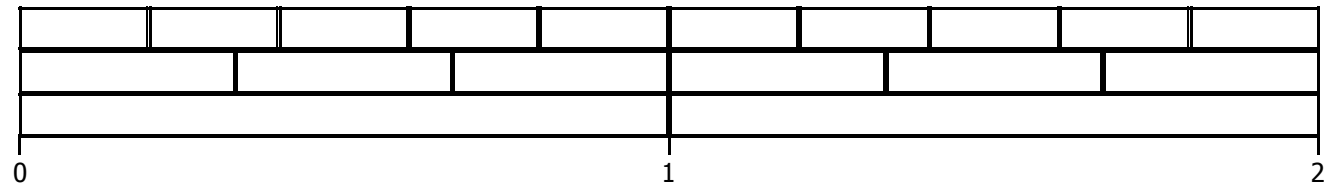
6. Write $\frac{1}{3}$ on the number line.

9. Write $\frac{2}{5}$ on the number line.

7. Write $\frac{1}{5}$ on the number line.

10. Write $\frac{6}{5}$ on the number line.

8. Write $\frac{2}{3}$ on the number line.



Name: _____

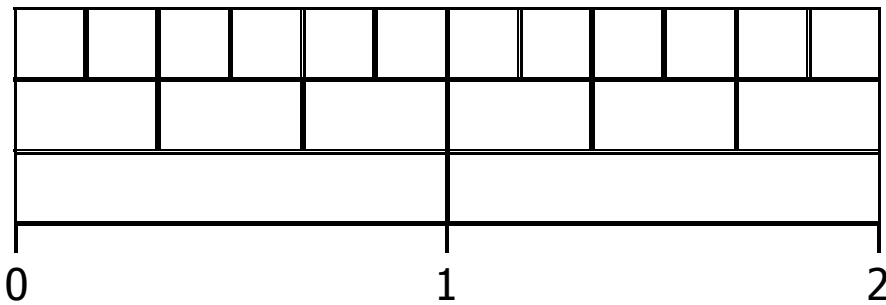
1. Write $\frac{1}{3}$ on the number line.

4. Write $\frac{4}{3}$ on the number line.

2. Write $\frac{2}{6}$ on the number line.

5. Write $\frac{8}{6}$ on the number line.

3. Write $\frac{3}{3}$ on the number line.



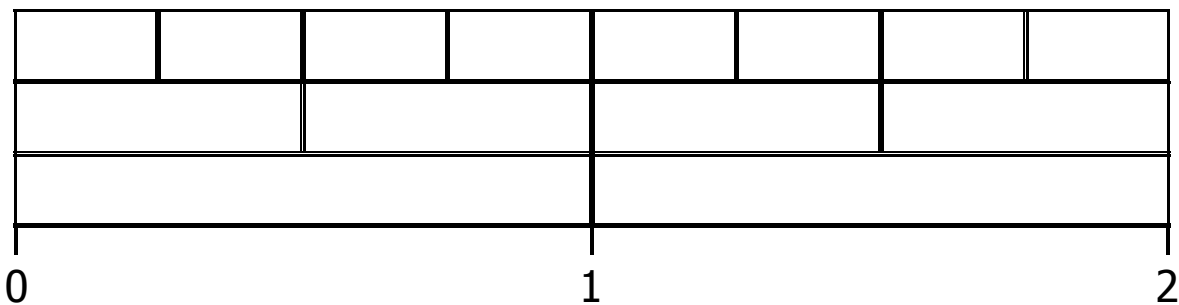
6. Write $\frac{1}{2}$ on the number line.

9. Write $\frac{3}{2}$ on the number line.

7. Write $\frac{2}{4}$ on the number line.

10. Write $\frac{6}{4}$ on the number line.

8. Write $\frac{2}{2}$ on the number line.



Name: _____

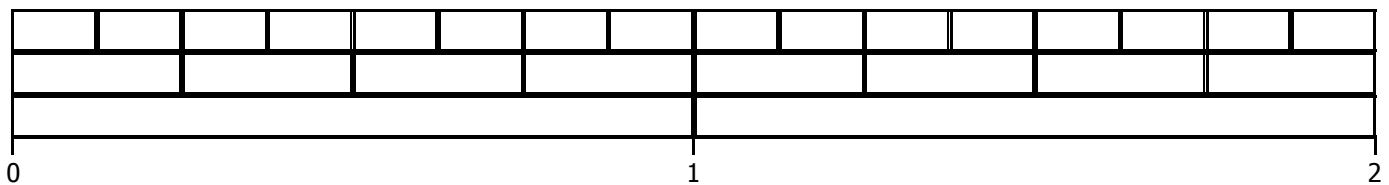
1. Write $\frac{1}{4}$ on the number line.

4. Write $\frac{6}{4}$ on the number line.

2. Write $\frac{2}{8}$ on the number line.

5. Write $\frac{12}{8}$ on the number line.

3. Write $\frac{8}{8}$ on the number line.



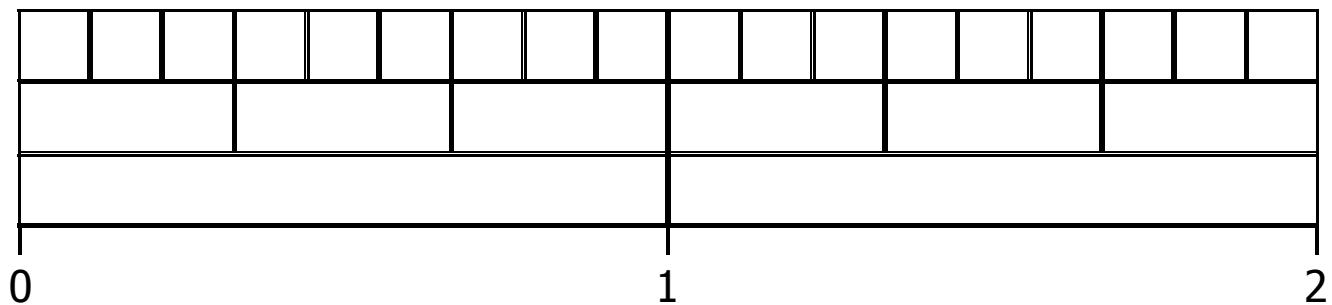
6. Write $\frac{2}{3}$ on the number line.

9. Write $\frac{4}{3}$ on the number line.

7. Write $\frac{6}{9}$ on the number line.

10. Write $\frac{12}{9}$ on the number line.

8. Write $\frac{3}{3}$ on the number line.



Name: _____

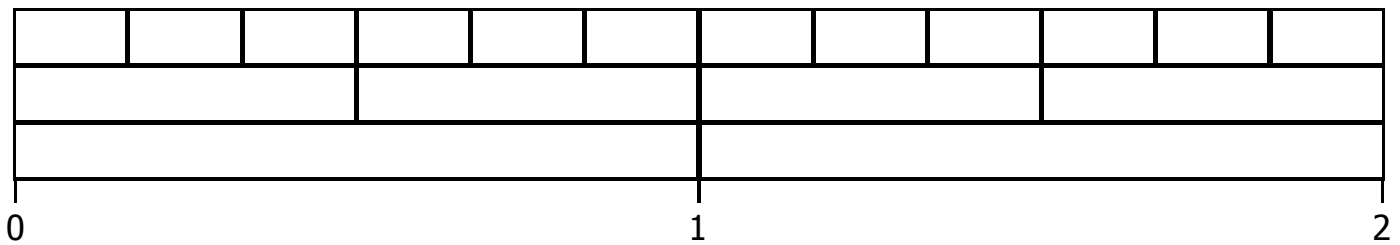
1. Which is less, $\frac{1}{6}$ or $\frac{1}{2}$? _____

4. Which is greater, $\frac{2}{6}$ or $\frac{1}{2}$? _____

2. Which is greater, $\frac{1}{2}$ or $\frac{2}{2}$? _____

5. Which is less, $\frac{5}{6}$ or $\frac{2}{2}$? _____

3. Which is less, $\frac{1}{6}$ or $\frac{2}{6}$? _____



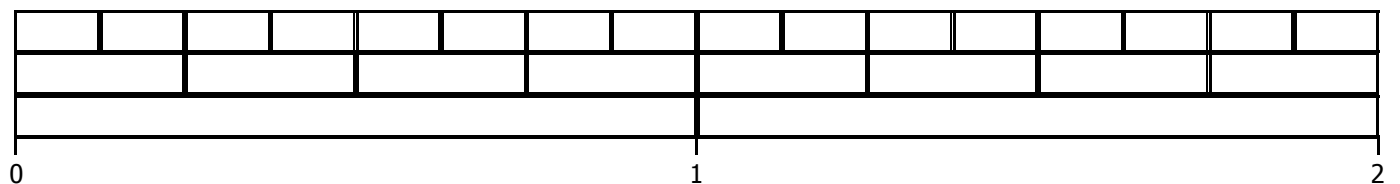
6. Which is greater, $\frac{1}{8}$ or $\frac{1}{4}$? _____

9. Which is less, $\frac{1}{4}$ or $\frac{4}{8}$? _____

7. Which is less, $\frac{1}{4}$ or $\frac{2}{4}$? _____

10. Which is greater, $\frac{9}{8}$ or $\frac{3}{4}$? _____

8. Which is greater, $\frac{1}{8}$ or $\frac{2}{8}$? _____



Name: _____

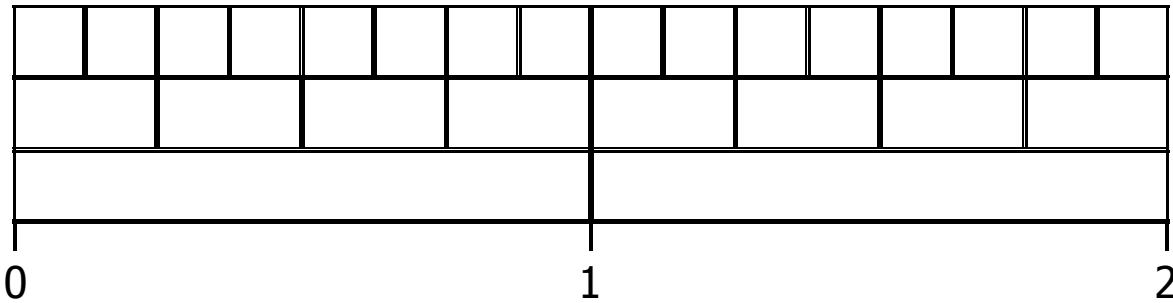
1. Which is less, $\frac{1}{8}$ or $\frac{1}{4}$? _____

4. Which is greater, $\frac{2}{4}$ or $\frac{5}{8}$? _____

2. Which is greater, $\frac{1}{4}$ or $\frac{2}{4}$? _____

5. Which is less, $\frac{7}{8}$ or $\frac{5}{4}$? _____

3. Which is less, $\frac{1}{8}$ or $\frac{2}{8}$? _____



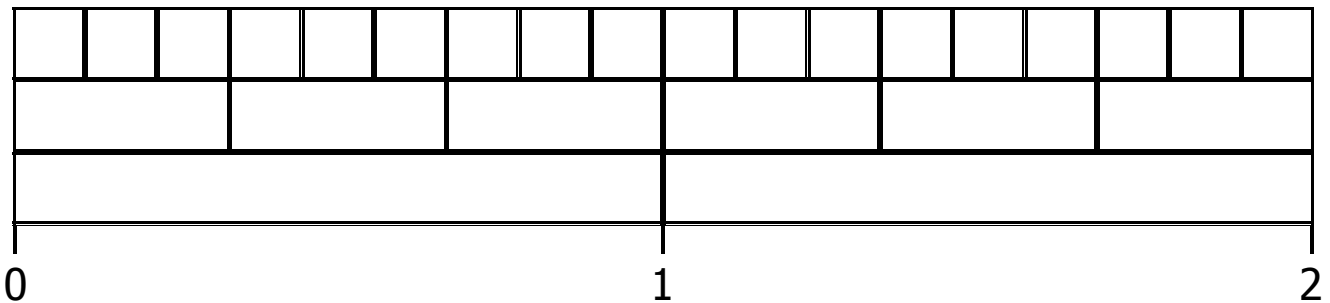
6. Which is greater, $\frac{1}{9}$ or $\frac{1}{3}$? _____

9. Which is less, $\frac{4}{9}$ or $\frac{2}{3}$? _____

7. Which is less, $\frac{1}{3}$ or $\frac{2}{3}$? _____

10. Which is greater, $\frac{8}{9}$ or $\frac{2}{3}$? _____

8. Which is greater, $\frac{1}{9}$ or $\frac{2}{9}$? _____



Name: _____

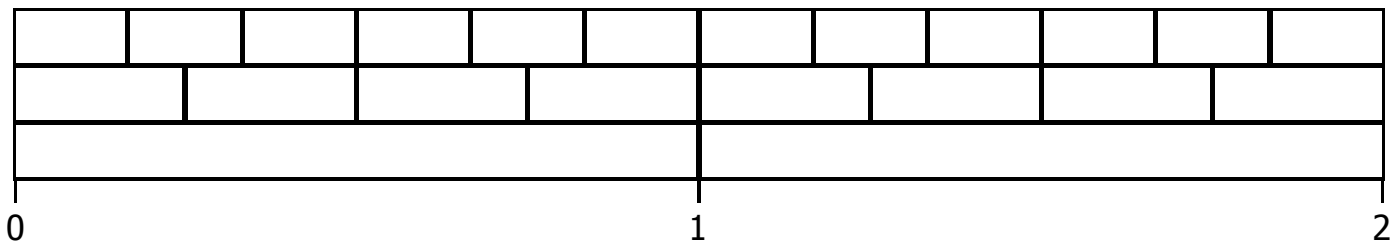
1. What is $\frac{1}{4} + \frac{1}{4}$? _____

4. What is $\frac{1}{4} + \frac{7}{4}$? _____

2. What is $\frac{4}{6} + \frac{1}{6}$? _____

5. What is $\frac{2}{4} + \frac{3}{6}$? _____

3. What is $\frac{2}{4} + \frac{2}{4}$? _____



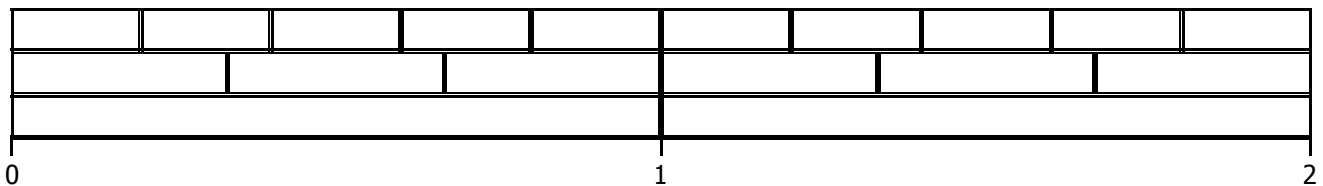
6. What is $\frac{1}{3} + \frac{1}{3}$? _____

9. What is $\frac{4}{5} + \frac{6}{5}$? _____

7. What is $\frac{2}{5} + \frac{2}{5}$? _____

10. What is $\frac{3}{3} + \frac{1}{5}$? _____

8. What is $\frac{3}{5} + \frac{2}{5}$? _____



Name: _____

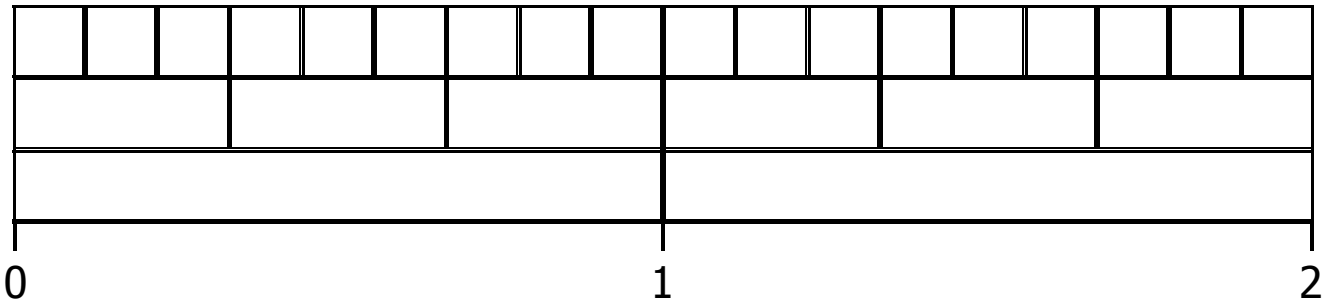
1. What is $\frac{1}{3} + \frac{1}{3}$? _____

4. What is $\frac{2}{9} + \frac{10}{9}$? _____

2. What is $\frac{2}{9} + \frac{6}{9}$? _____

5. What is $\frac{1}{3} + \frac{8}{9}$? _____

3. What is $\frac{5}{9} + \frac{4}{9}$? _____



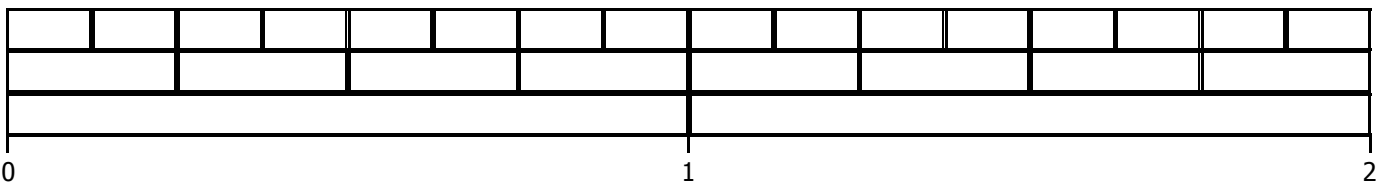
6. What is $\frac{1}{4} + \frac{1}{4}$? _____

9. What is $\frac{6}{4} + \frac{2}{4}$? _____

7. What is $\frac{1}{8} + \frac{4}{8}$? _____

10. What is $\frac{1}{4} + \frac{3}{8}$? _____

8. What is $\frac{3}{4} + \frac{1}{4}$? _____



Name: _____

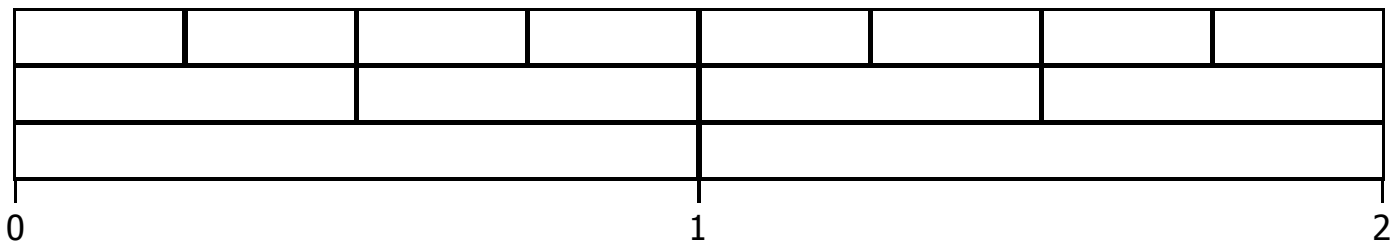
1. What is $\frac{1}{2} + \frac{1}{4}$? _____

4. What is $\frac{5}{4} + \frac{1}{2}$? _____

2. What is $\frac{2}{2} + \frac{1}{4}$? _____

5. What is $\frac{3}{4} + \frac{2}{2}$? _____

3. What is $\frac{2}{2} + \frac{2}{4}$? _____



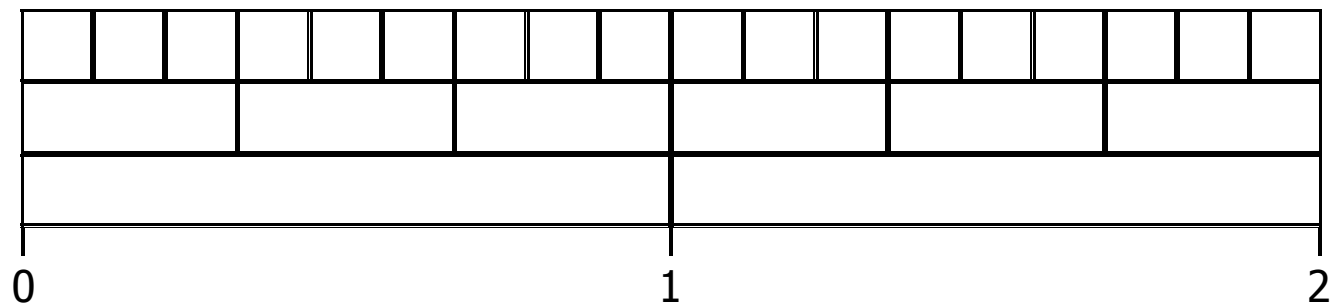
6. What is $\frac{1}{3} + \frac{1}{9}$? _____

9. What is $\frac{10}{9} + \frac{1}{3}$? _____

7. What is $\frac{2}{3} + \frac{1}{9}$? _____

10. What is $\frac{8}{9} + \frac{2}{3}$? _____

8. What is $\frac{2}{3} + \frac{2}{9}$? _____



Name: _____

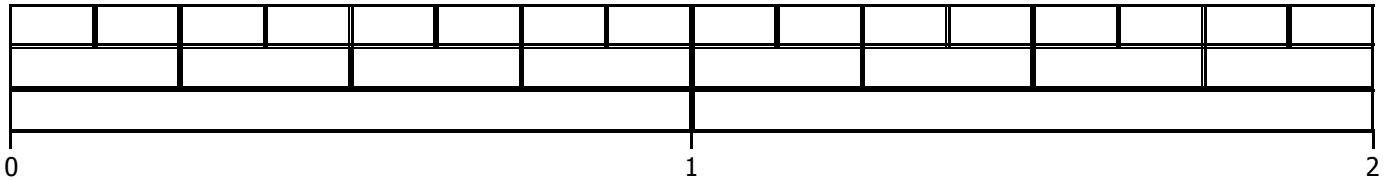
1. What is $\frac{1}{4} + \frac{1}{8}$? _____

4. What is $\frac{9}{8} + \frac{1}{4}$? _____

2. What is $\frac{2}{4} + \frac{1}{8}$? _____

5. What is $\frac{7}{8} + \frac{3}{4}$? _____

3. What is $\frac{2}{4} + \frac{2}{8}$? _____



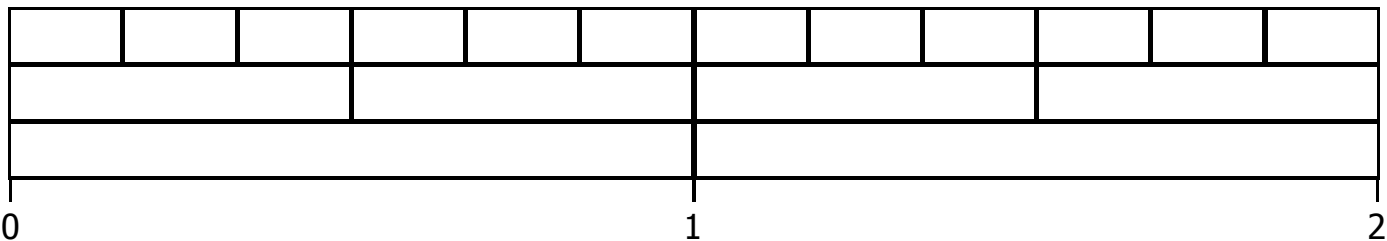
6. What is $\frac{1}{2} + \frac{1}{6}$? _____

9. What is $\frac{7}{6} + \frac{1}{2}$? _____

7. What is $\frac{2}{2} + \frac{1}{6}$? _____

10. What is $\frac{5}{6} + \frac{2}{2}$? _____

8. What is $\frac{2}{2} + \frac{2}{6}$? _____



Name: _____

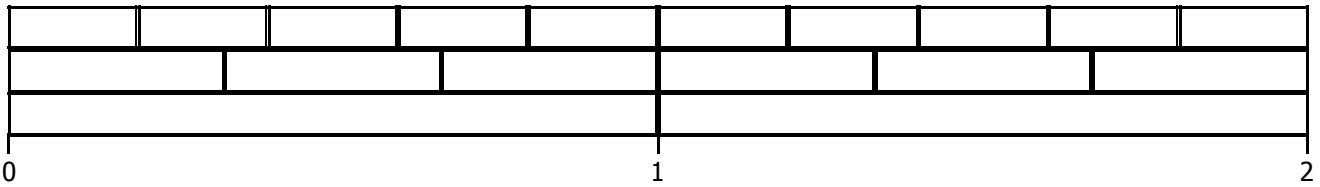
1. What is $\frac{1}{3} + \frac{1}{5}$? _____

4. What is $\frac{6}{5} + \frac{1}{3}$? _____

2. What is $\frac{2}{3} + \frac{1}{5}$? _____

5. What is $\frac{4}{5} + \frac{2}{3}$? _____

3. What is $\frac{2}{3} + \frac{2}{5}$? _____



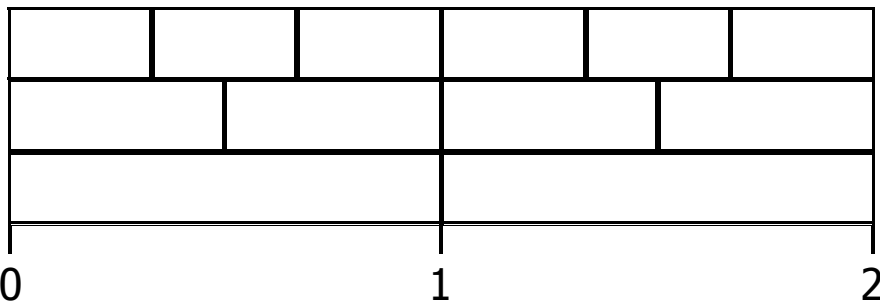
6. What is $\frac{1}{2} + \frac{1}{3}$? _____

9. What is $\frac{4}{3} + \frac{1}{2}$? _____

7. What is $\frac{2}{2} + \frac{1}{3}$? _____

10. What is $\frac{2}{3} + \frac{2}{2}$? _____

8. What is $\frac{2}{2} + \frac{2}{3}$? _____



Name: _____

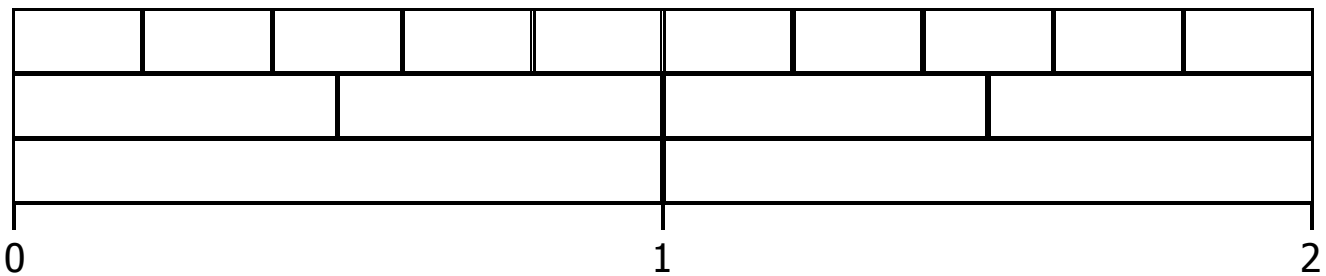
1. What is $\frac{1}{2} + \frac{1}{5}$? _____

4. What is $\frac{6}{5} + \frac{1}{2}$? _____

2. What is $\frac{2}{2} + \frac{1}{5}$? _____

5. What is $\frac{4}{5} + \frac{2}{2}$? _____

3. What is $\frac{2}{2} + \frac{2}{5}$? _____



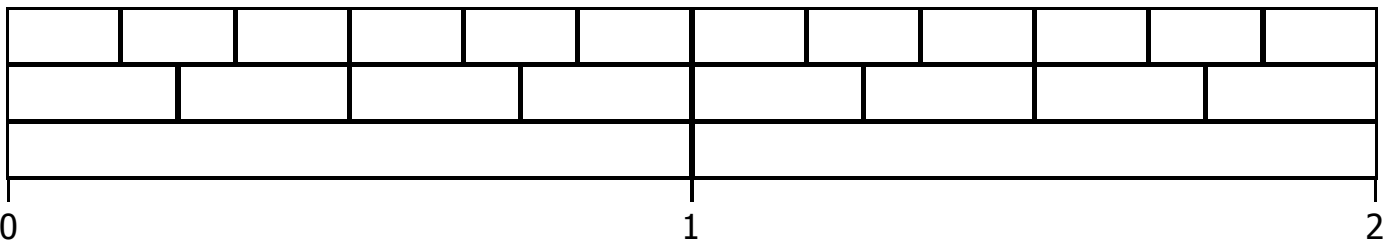
6. What is $\frac{1}{4} + \frac{1}{6}$? _____

9. What is $\frac{7}{6} + \frac{1}{4}$? _____

7. What is $\frac{2}{4} + \frac{1}{6}$? _____

10. What is $\frac{5}{6} + \frac{3}{4}$? _____

8. What is $\frac{2}{4} + \frac{2}{6}$? _____



Name: _____

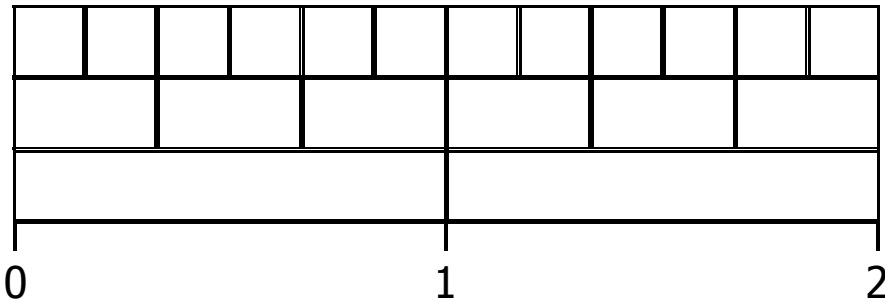
1. What is $\frac{2}{3} - \frac{1}{3}$? _____

4. What is $\frac{9}{6} - \frac{8}{6}$? _____

2. What is $\frac{4}{6} - \frac{2}{6}$? _____

5. What is $\frac{1}{3} - \frac{1}{6}$? _____

3. What is $\frac{4}{3} - \frac{2}{3}$? _____



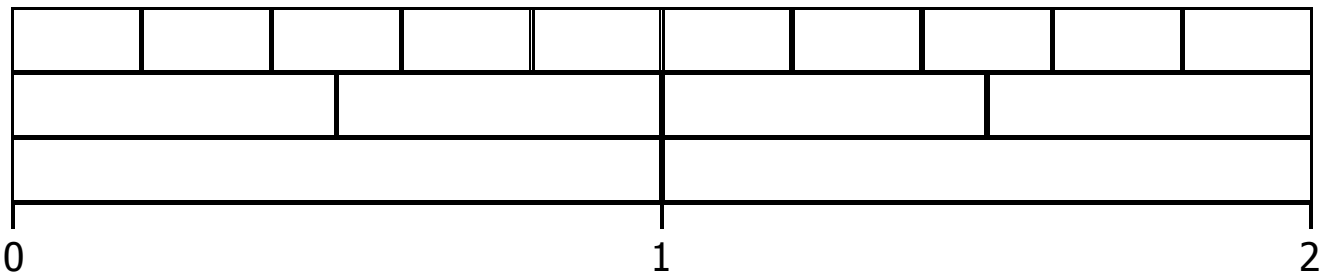
6. What is $\frac{2}{2} - \frac{1}{2}$? _____

9. What is $\frac{6}{5} - \frac{4}{5}$? _____

7. What is $\frac{4}{5} - \frac{3}{5}$? _____

10. What is $\frac{2}{2} - \frac{1}{5}$? _____

8. What is $\frac{3}{2} - \frac{2}{2}$? _____



Name: _____

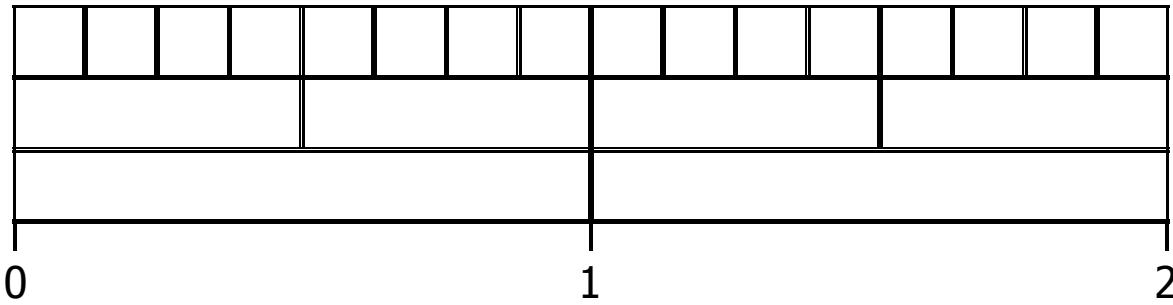
1. What is $\frac{2}{2} - \frac{1}{2}$? _____

4. What is $\frac{11}{8} - \frac{7}{8}$? _____

2. What is $\frac{5}{8} - \frac{3}{8}$? _____

5. What is $\frac{2}{2} - \frac{1}{8}$? _____

3. What is $\frac{3}{2} - \frac{3}{2}$? _____



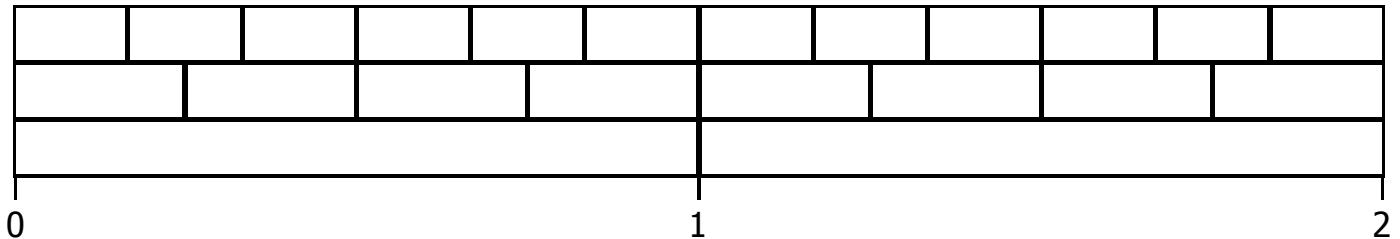
6. What is $\frac{2}{4} - \frac{1}{4}$? _____

9. What is $\frac{9}{6} - \frac{1}{6}$? _____

7. What is $\frac{5}{6} - \frac{2}{6}$? _____

10. What is $\frac{2}{4} - \frac{2}{6}$? _____

8. What is $\frac{5}{4} - \frac{3}{4}$? _____



Name: _____

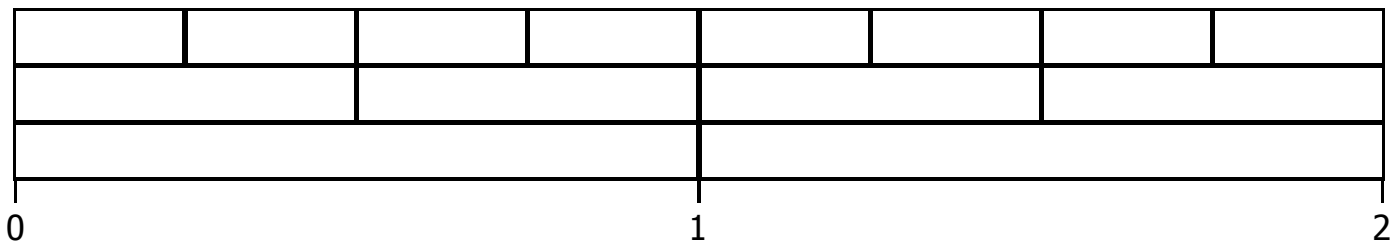
1. What is $\frac{1}{2} - \frac{1}{4}$? _____

4. What is $\frac{5}{4} - \frac{1}{2}$? _____

2. What is $\frac{2}{2} - \frac{2}{4}$? _____

5. What is $\frac{7}{4} - \frac{3}{2}$? _____

3. What is $\frac{3}{4} - \frac{1}{2}$? _____



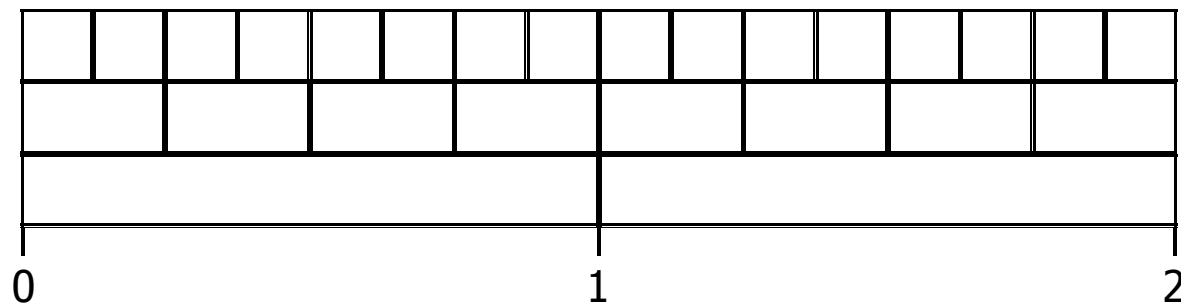
6. What is $\frac{1}{4} - \frac{1}{8}$? _____

9. What is $\frac{9}{8} - \frac{3}{4}$? _____

7. What is $\frac{2}{4} - \frac{2}{8}$? _____

10. What is $\frac{15}{8} - \frac{5}{4}$? _____

8. What is $\frac{7}{8} - \frac{1}{4}$? _____



Name: _____

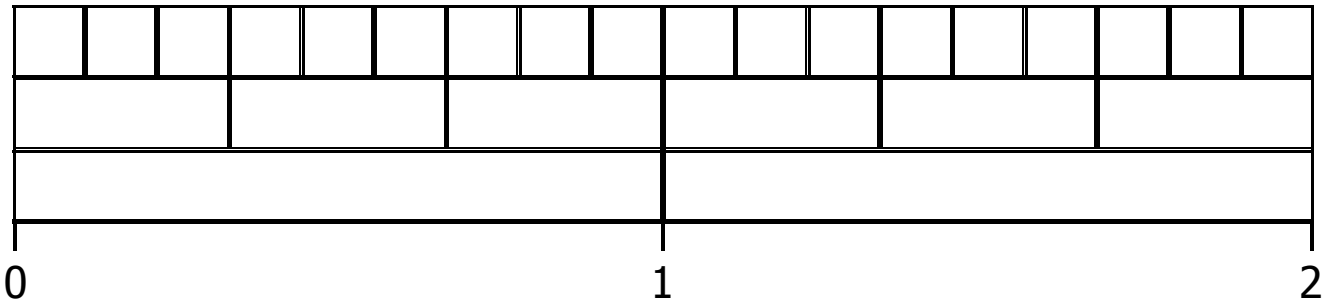
1. What is $\frac{1}{3} - \frac{1}{9}$? _____

4. What is $\frac{10}{9} - \frac{2}{3}$? _____

2. What is $\frac{2}{3} - \frac{2}{9}$? _____

5. What is $\frac{17}{9} - \frac{4}{3}$? _____

3. What is $\frac{8}{9} - \frac{1}{3}$? _____



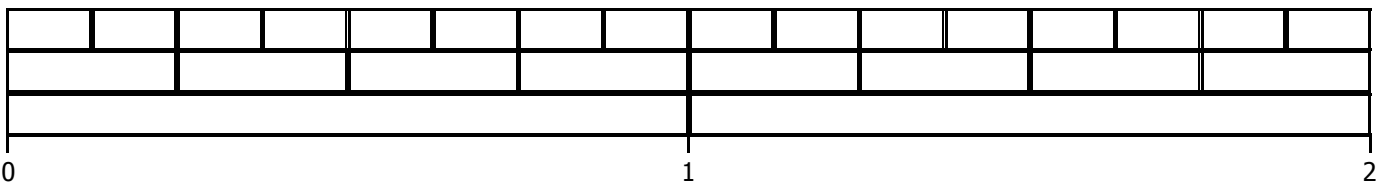
6. What is $\frac{1}{4} - \frac{1}{8}$? _____

9. What is $\frac{9}{8} - \frac{3}{4}$? _____

7. What is $\frac{2}{4} - \frac{2}{8}$? _____

10. What is $\frac{15}{8} - \frac{5}{4}$? _____

8. What is $\frac{7}{8} - \frac{1}{4}$? _____



Name: _____

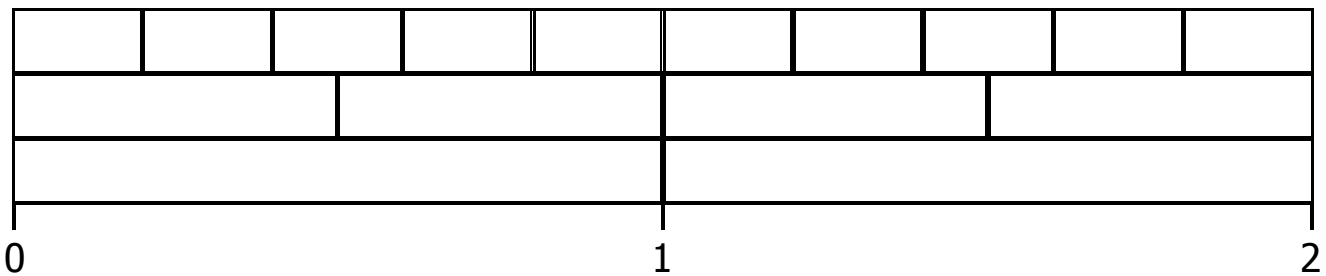
1. What is $\frac{1}{2} - \frac{1}{5}$? _____

4. What is $\frac{6}{5} - \frac{1}{2}$? _____

2. What is $\frac{2}{2} - \frac{2}{5}$? _____

5. What is $\frac{9}{5} - \frac{3}{2}$? _____

3. What is $\frac{4}{5} - \frac{1}{2}$? _____



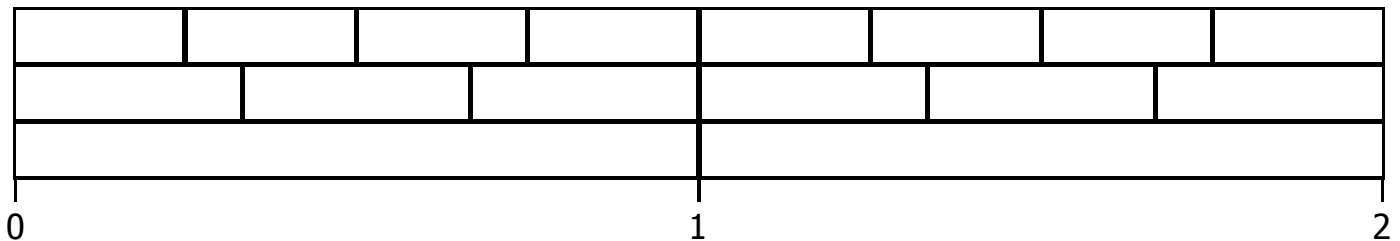
6. What is $\frac{1}{3} - \frac{1}{4}$? _____

9. What is $\frac{5}{4} - \frac{2}{3}$? _____

7. What is $\frac{2}{3} - \frac{2}{4}$? _____

10. What is $\frac{7}{4} - \frac{4}{3}$? _____

8. What is $\frac{3}{4} - \frac{1}{3}$? _____



Name: _____

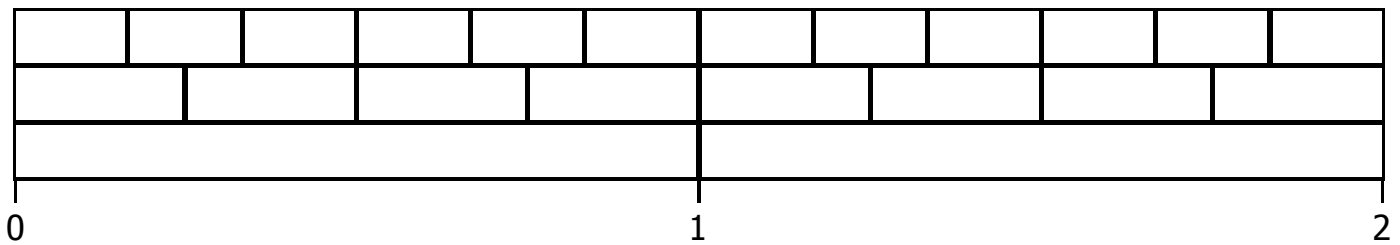
1. What is $\frac{1}{4} - \frac{1}{6}$? _____

4. What is $\frac{7}{6} - \frac{3}{4}$? _____

2. What is $\frac{2}{4} - \frac{2}{6}$? _____

5. What is $\frac{11}{6} - \frac{5}{4}$? _____

3. What is $\frac{5}{6} - \frac{1}{4}$? _____



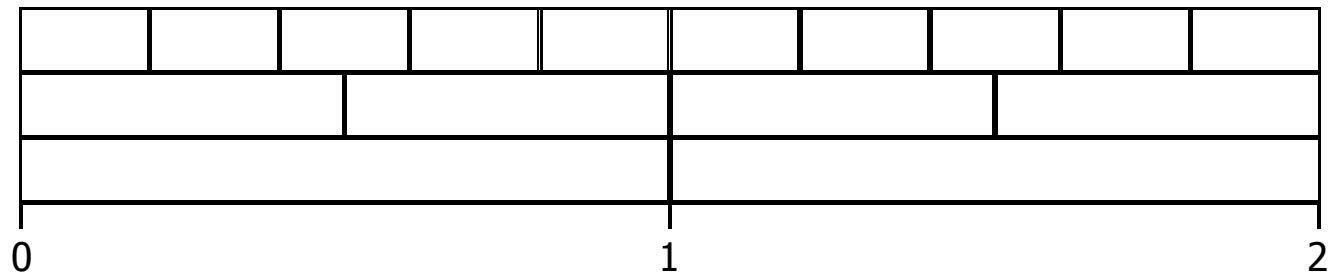
6. What is $\frac{1}{2} - \frac{1}{5}$? _____

9. What is $\frac{6}{5} - \frac{1}{2}$? _____

7. What is $\frac{2}{2} - \frac{2}{5}$? _____

10. What is $\frac{9}{5} - \frac{3}{2}$? _____

8. What is $\frac{4}{5} - \frac{1}{2}$? _____



Name: _____

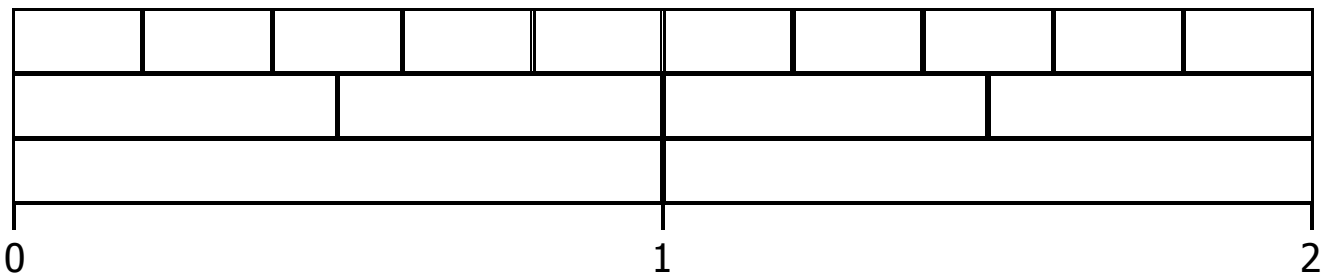
1. What is $1 \times \frac{1}{2}$? _____

4. What is $2 \times \frac{2}{2}$? _____

2. What is $2 \times \frac{2}{5}$? _____

5. What is $4 \times \frac{2}{5}$? _____

3. What is $5 \times \frac{1}{5}$? _____



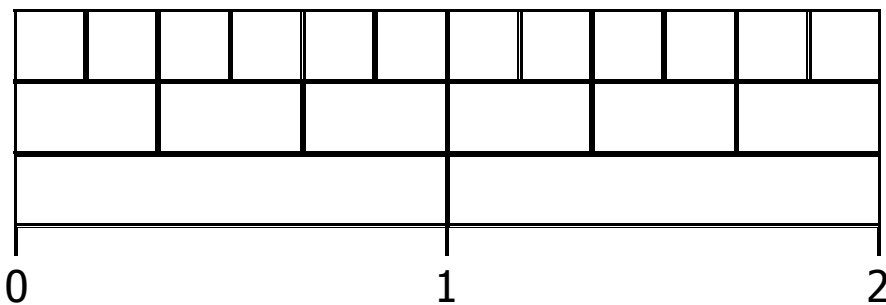
6. What is $1 \times \frac{1}{3}$? _____

9. What is $2 \times \frac{2}{3}$? _____

7. What is $2 \times \frac{2}{6}$? _____

10. What is $2 \times \frac{5}{6}$? _____

8. What is $2 \times \frac{3}{6}$? _____



Name: _____

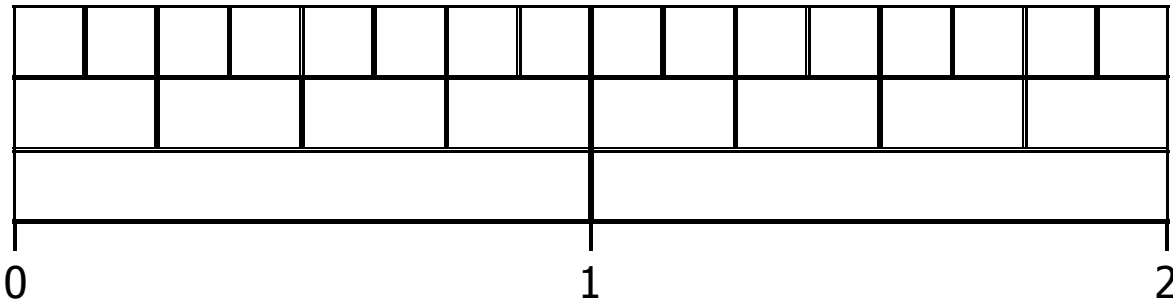
1. What is $1 \times \frac{1}{4}$? _____

4. What is $2 \times \frac{2}{4}$? _____

2. What is $2 \times \frac{3}{8}$? _____

5. What is $4 \times \frac{3}{8}$? _____

3. What is $2 \times \frac{4}{8}$? _____



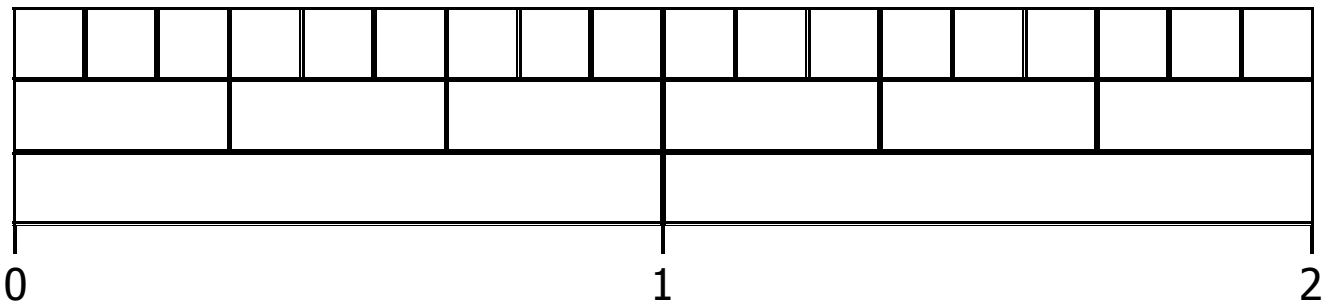
6. What is $1 \times \frac{1}{3}$? _____

9. What is $3 \times \frac{2}{3}$? _____

7. What is $2 \times \frac{3}{9}$? _____

10. What is $9 \times \frac{2}{9}$? _____

8. What is $9 \times \frac{1}{9}$? _____



Name: _____

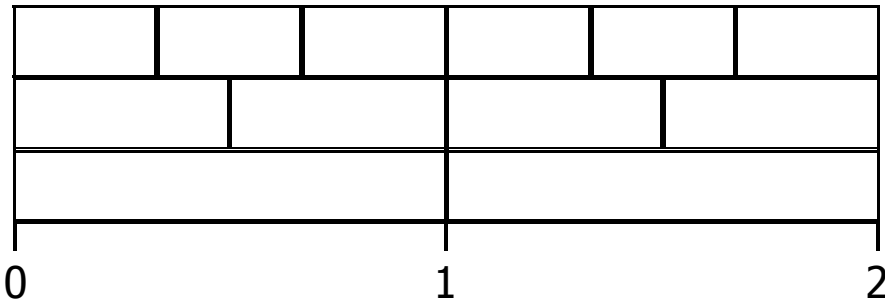
1. What is $\frac{1}{2} \times \frac{2}{3}$? _____

4. What is $\frac{1}{3} \times \frac{1}{2}$? _____

2. What is $\frac{1}{2} \times \frac{4}{3}$? _____

5. What is $\frac{2}{3} \times \frac{2}{2}$? _____

3. What is $\frac{1}{2} \times \frac{1}{3}$? _____



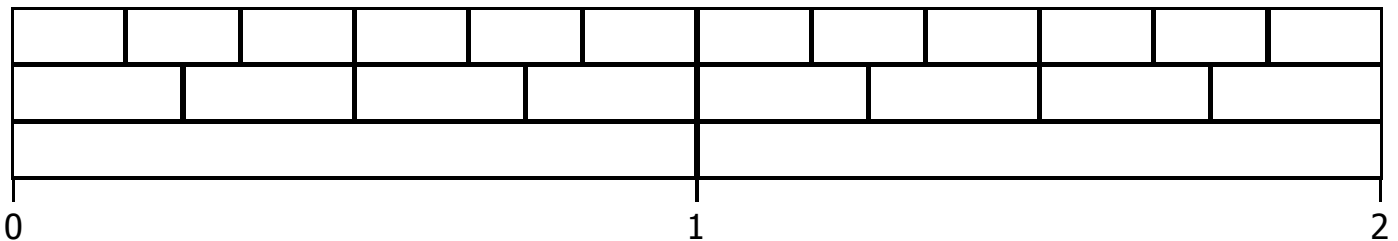
6. What is $\frac{1}{4} \times \frac{4}{6}$? _____

9. What is $\frac{1}{6} \times \frac{1}{4}$? _____

7. What is $\frac{1}{4} \times \frac{8}{6}$? _____

10. What is $\frac{5}{6} \times \frac{2}{4}$? _____

8. What is $\frac{1}{4} \times \frac{1}{6}$? _____



Name: _____

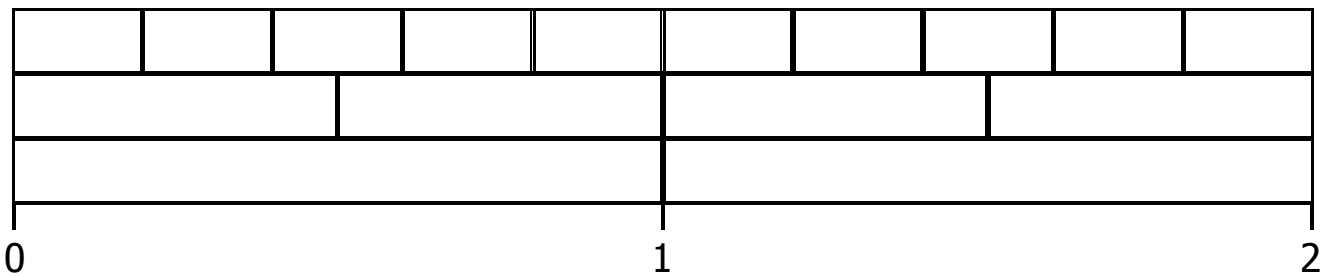
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4. What is $\frac{1}{5} \times \frac{1}{2}$? _____

2. What is $\frac{1}{2} \times \frac{4}{5}$? _____

5. What is $\frac{4}{5} \times \frac{2}{2}$? _____

3. What is $\frac{1}{2} \times \frac{1}{5}$? _____



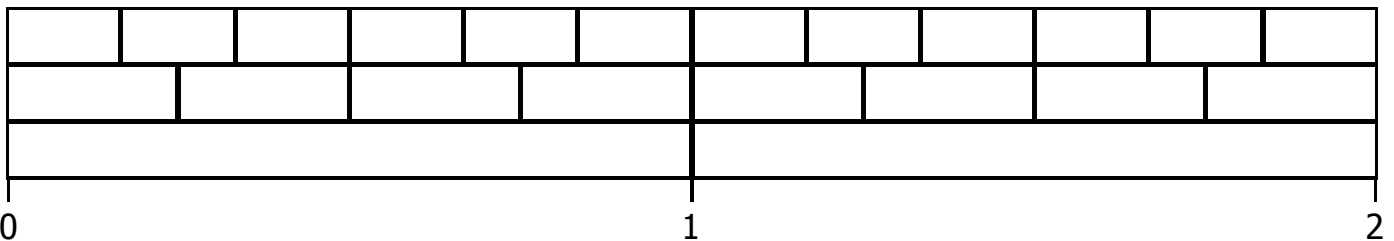
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9. What is $\frac{1}{6} \times \frac{1}{4}$? _____

7. What is $\frac{1}{4} \times \frac{8}{6}$? _____

10. What is $\frac{5}{6} \times \frac{2}{4}$? _____

8. What is $\frac{1}{4} \times \frac{1}{6}$? _____



Name: _____

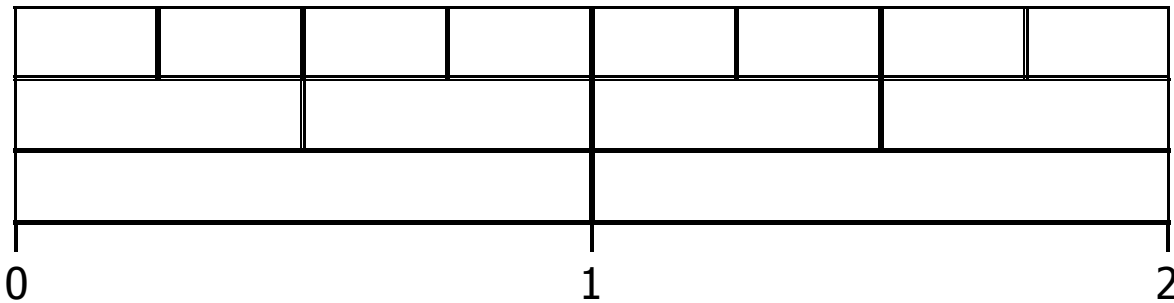
1. What is $\frac{1}{2} \times 2$? _____

4. What is $\frac{2}{4} \times 2$? _____

2. What is $\frac{2}{2} \times 2$? _____

5. What is $\frac{3}{4} \times 2$? _____

3. What is $\frac{1}{4} \times 2$? _____



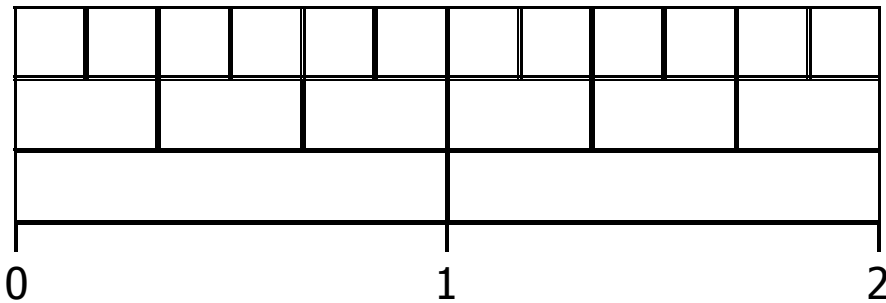
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9. What is $\frac{2}{6} \times 2$? _____

7. What is $\frac{2}{3} \times 2$? _____

10. What is $\frac{5}{6} \times 2$? _____

8. What is $\frac{1}{6} \times 2$? _____



Name: _____

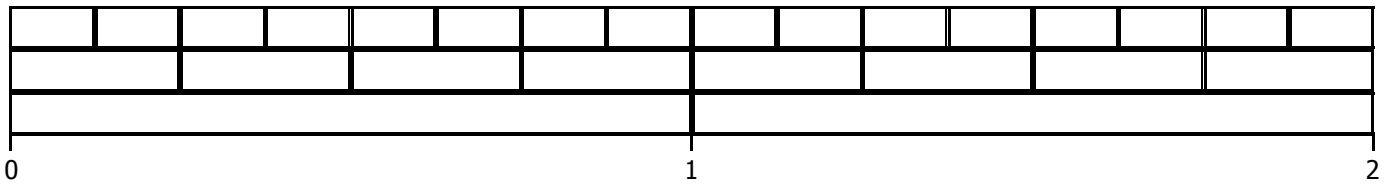
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4. What is $\frac{2}{8} \times 2$? _____

2. What is $\frac{2}{4} \times 2$? _____

5. What is $\frac{7}{8} \times 2$? _____

3. What is $\frac{1}{8} \times 2$? _____



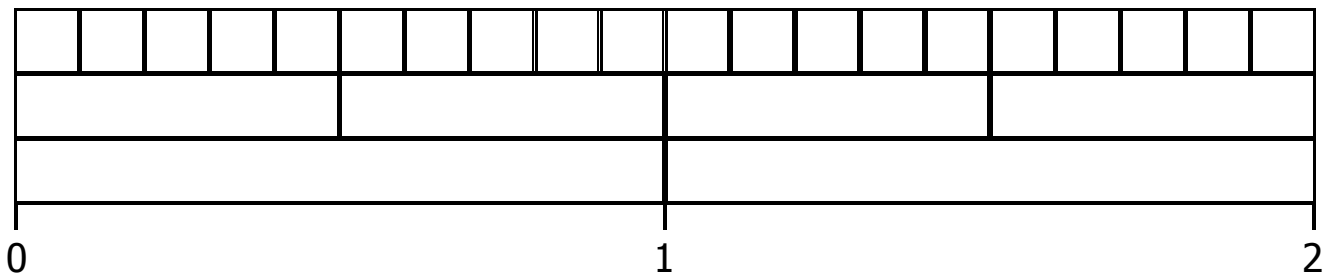
6. What is $\frac{1}{2} \times 2$? _____

9. What is $\frac{2}{10} \times 2$? _____

7. What is $\frac{2}{2} \times 2$? _____

10. What is $\frac{9}{10} \times 2$? _____

8. What is $\frac{1}{10} \times 2$? _____



Name: _____

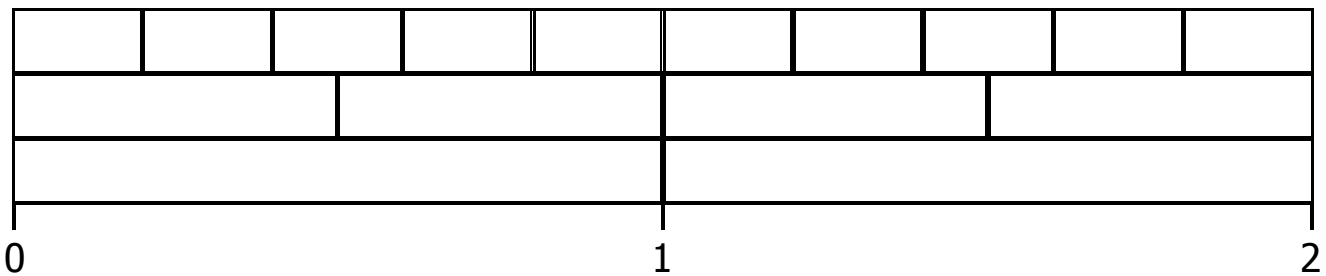
1. What is $1 \div \frac{1}{2}$? _____

4. What is $2 \div \frac{1}{5}$? _____

2. What is $2 \div \frac{1}{2}$? _____

5. What is $1 \div \frac{1}{4}$? _____

3. What is $1 \div \frac{1}{5}$? _____



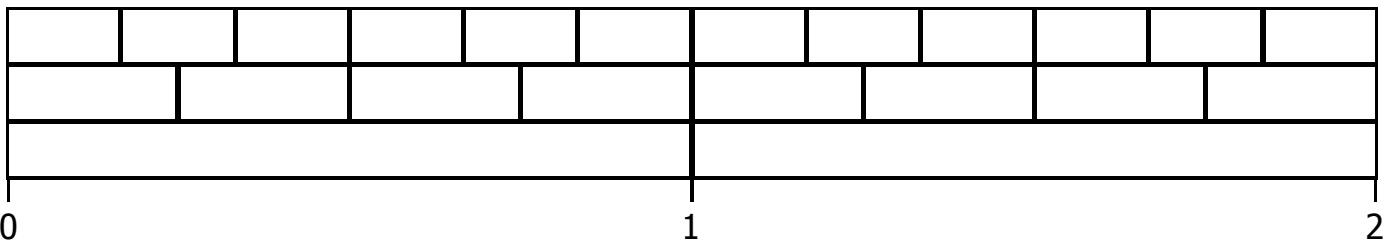
6. What is $1 \div \frac{1}{4}$? _____

9. What is $2 \div \frac{1}{6}$? _____

7. What is $2 \div \frac{1}{4}$? _____

10. What is $2 \div \frac{1}{12}$? _____

8. What is $1 \div \frac{1}{6}$? _____



Name: _____

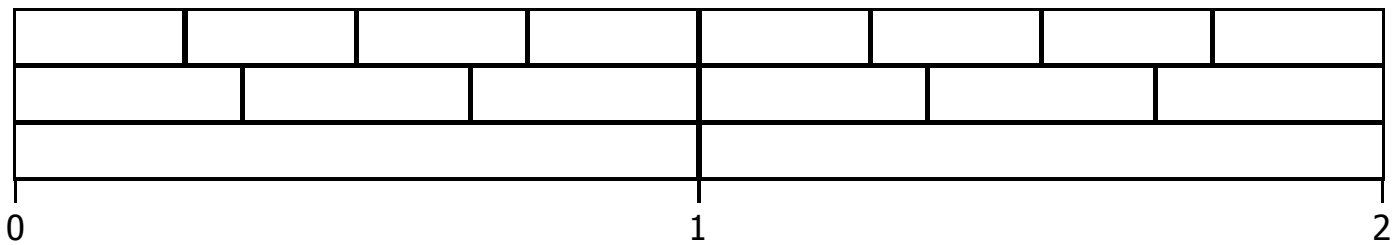
1. What is $1 \div \frac{1}{3}$? _____

4. What is $2 \div \frac{1}{4}$? _____

2. What is $2 \div \frac{1}{3}$? _____

5. What is $1 \div \frac{1}{6}$? _____

3. What is $1 \div \frac{1}{4}$? _____



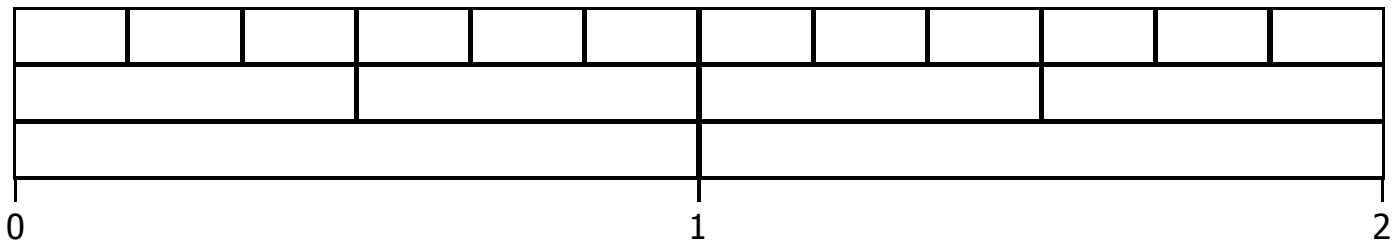
6. What is $1 \div \frac{1}{2}$? _____

9. What is $2 \div \frac{1}{6}$? _____

7. What is $2 \div \frac{1}{2}$? _____

10. What is $2 \div \frac{1}{12}$? _____

8. What is $1 \div \frac{1}{6}$? _____



Name: _____

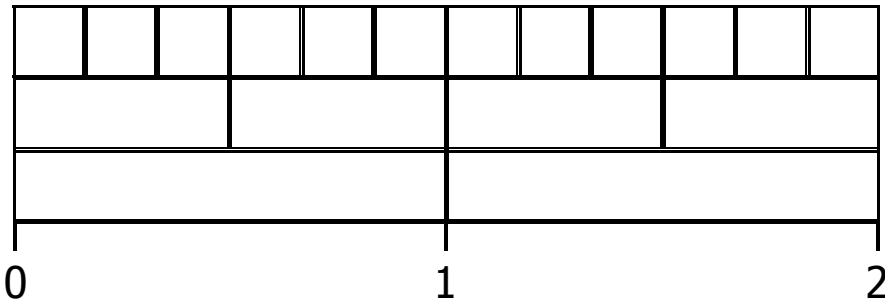
1. What is $\frac{1}{2} \div 1$? _____

4. What is $\frac{1}{2} \div 6$? _____

2. What is $\frac{1}{2} \div 3$? _____

5. What is $\frac{1}{2} \div 2$? _____

3. What is $\frac{1}{6} \div 2$? _____



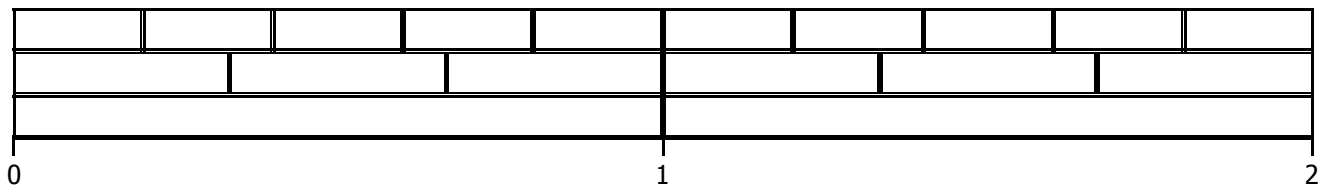
6. What is $\frac{1}{3} \div 1$? _____

9. What is $\frac{1}{3} \div 2$? _____

7. What is $\frac{1}{3} \div 5$? _____

10. What is $\frac{1}{5} \div 2$? _____

8. What is $\frac{1}{5} \div 3$? _____



Name: _____

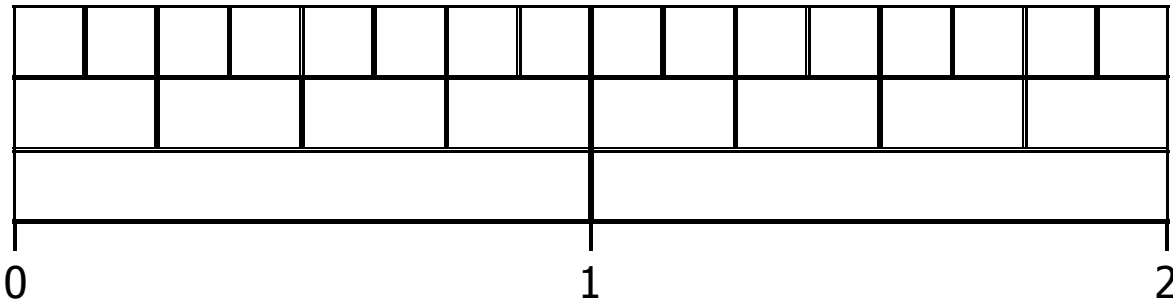
1. What is $\frac{1}{4} \div 1$? _____

4. What is $\frac{1}{4} \div 4$? _____

2. What is $\frac{1}{4} \div 2$? _____

5. What is $\frac{1}{4} \div 3$? _____

3. What is $\frac{1}{8} \div 2$? _____



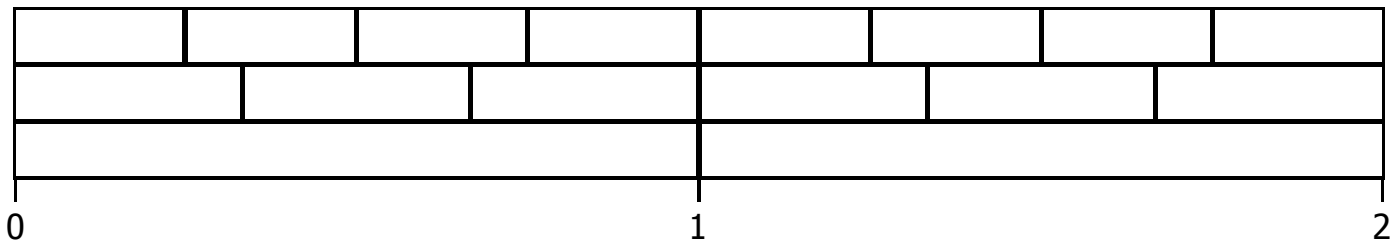
6. What is $\frac{1}{3} \div 1$? _____

9. What is $\frac{1}{3} \div 2$? _____

7. What is $\frac{1}{3} \div 4$? _____

10. What is $\frac{1}{4} \div 2$? _____

8. What is $\frac{1}{4} \div 3$? _____



Name: _____

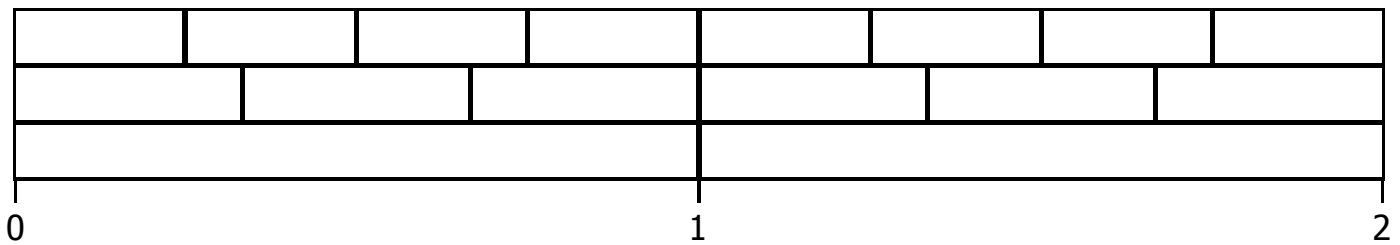
1. What is $1 \div \frac{2}{3}$? _____

4. What is $2 \div \frac{3}{4}$? _____

2. What is $2 \div \frac{2}{3}$? _____

5. What is $1 \div \frac{4}{3}$? _____

3. What is $1 \div \frac{3}{4}$? _____



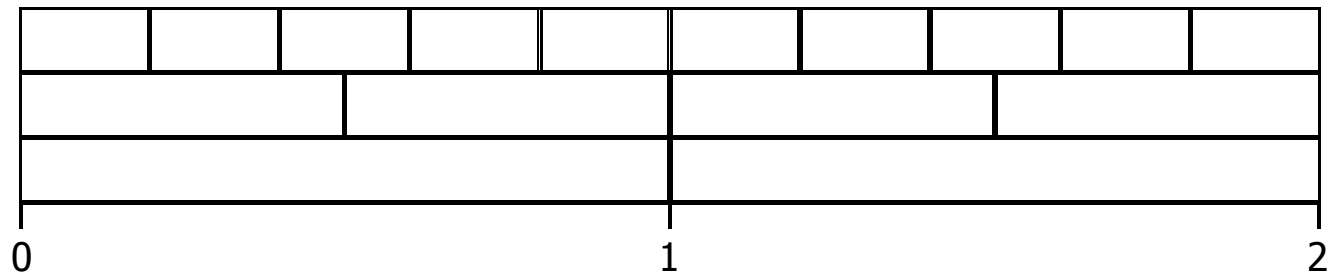
6. What is $1 \div \frac{1}{2}$? _____

9. What is $2 \div \frac{4}{5}$? _____

7. What is $2 \div \frac{1}{2}$? _____

10. What is $1 \div \frac{3}{2}$? _____

8. What is $1 \div \frac{4}{5}$? _____



Name: _____

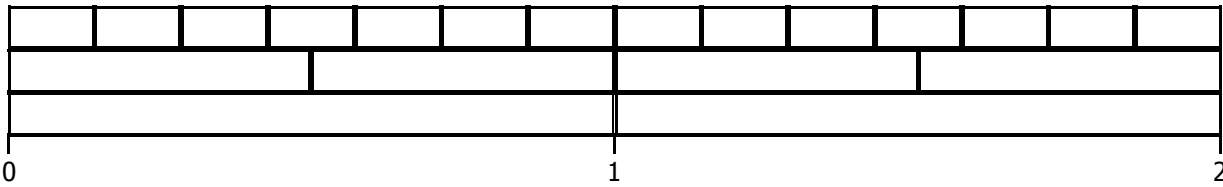
1. What is $1 \div \frac{1}{2}$? _____

4. What is $2 \div \frac{6}{7}$? _____

2. What is $2 \div \frac{1}{2}$? _____

5. What is $1 \div \frac{3}{2}$? _____

3. What is $1 \div \frac{6}{7}$? _____



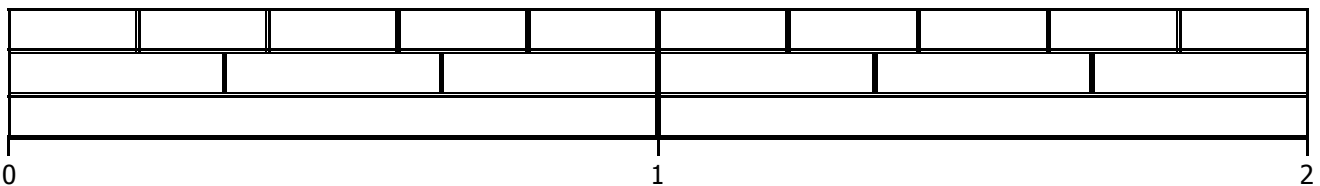
6. What is $1 \div \frac{2}{3}$? _____

9. What is $2 \div \frac{4}{5}$? _____

7. What is $2 \div \frac{2}{3}$? _____

10. What is $1 \div \frac{4}{3}$? _____

8. What is $1 \div \frac{4}{5}$? _____



Name: _____

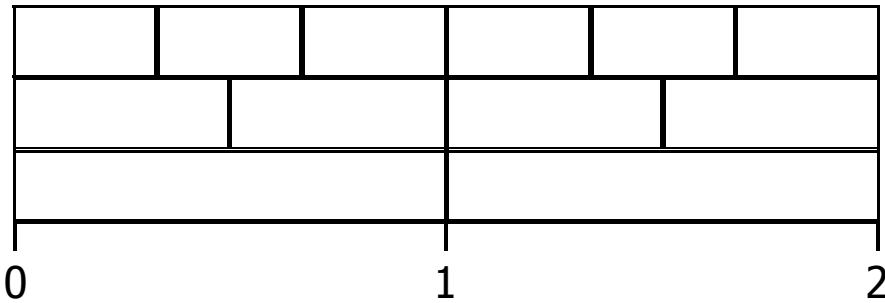
1. What is $\frac{1}{2} \div 2$? _____

4. What is $\frac{2}{3} \div 4$? _____

2. What is $\frac{1}{2} \div 4$? _____

5. What is $\frac{4}{3} \div 2$? _____

3. What is $\frac{2}{3} \div 2$? _____



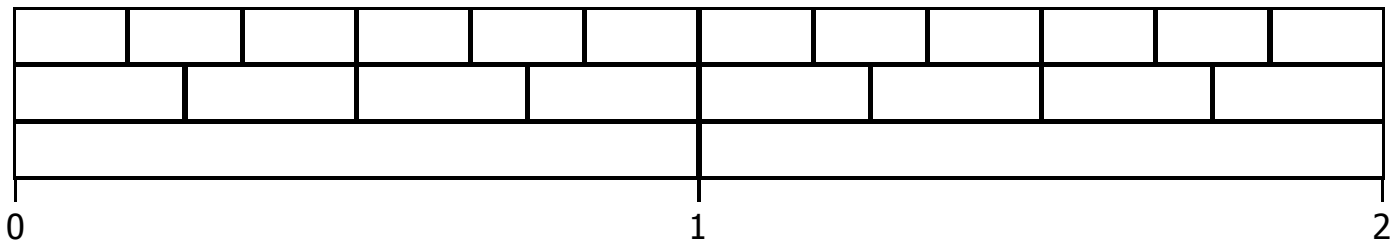
6. What is $\frac{3}{4} \div 2$? _____

9. What is $\frac{5}{6} \div 4$? _____

7. What is $\frac{3}{4} \div 4$? _____

10. What is $\frac{7}{6} \div 2$? _____

8. What is $\frac{5}{6} \div 2$? _____



Name: _____

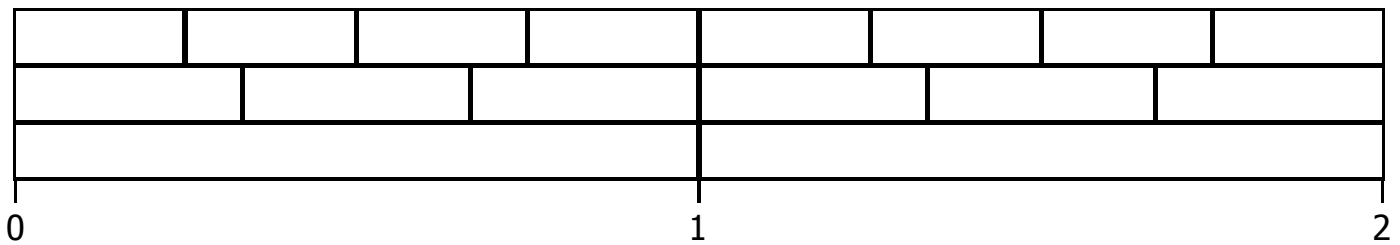
1. What is $\frac{2}{3} \div 2$? _____

4. What is $\frac{3}{4} \div 4$? _____

2. What is $\frac{2}{3} \div 4$? _____

5. What is $\frac{5}{4} \div 2$? _____

3. What is $\frac{3}{4} \div 2$? _____



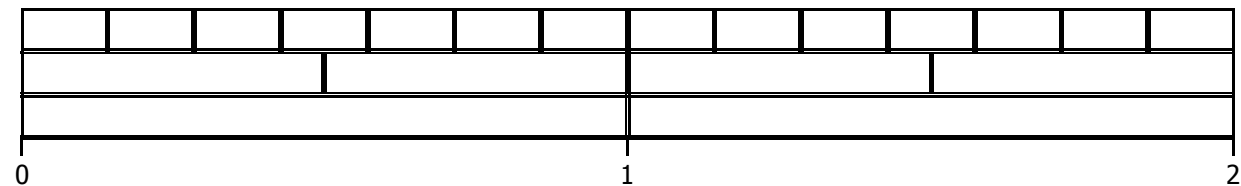
6. What is $\frac{1}{2} \div 2$? _____

9. What is $\frac{6}{7} \div 4$? _____

7. What is $\frac{1}{2} \div 4$? _____

10. What is $\frac{8}{7} \div 2$? _____

8. What is $\frac{6}{7} \div 2$? _____



Name: _____

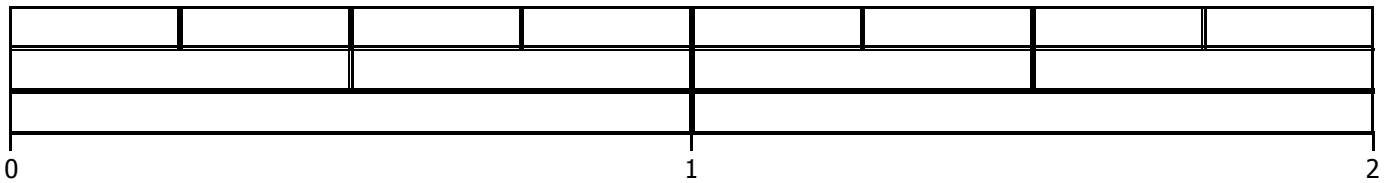
1. What is $\frac{1}{2} \div \frac{1}{4}$? _____

4. What is $\frac{1}{2} \div \frac{1}{8}$? _____

2. What is $\frac{1}{2} \div \frac{2}{4}$? _____

5. What is $\frac{1}{2} \div \frac{3}{8}$? _____

3. What is $\frac{1}{2} \div \frac{3}{4}$? _____



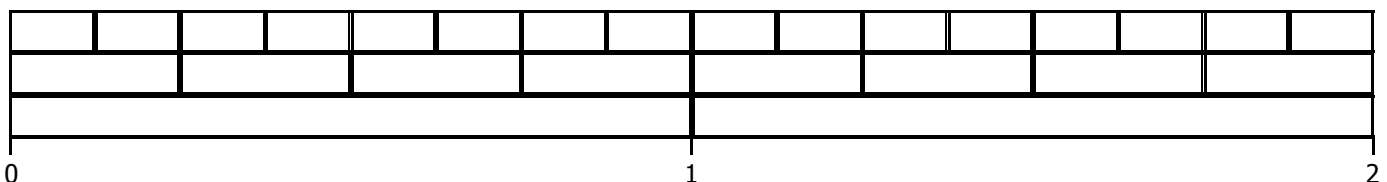
6. What is $\frac{1}{4} \div \frac{1}{8}$? _____

9. What is $\frac{1}{4} \div \frac{1}{16}$? _____

7. What is $\frac{3}{4} \div \frac{2}{8}$? _____

10. What is $\frac{1}{4} \div \frac{3}{16}$? _____

8. What is $\frac{3}{4} \div \frac{7}{8}$? _____



Name: _____

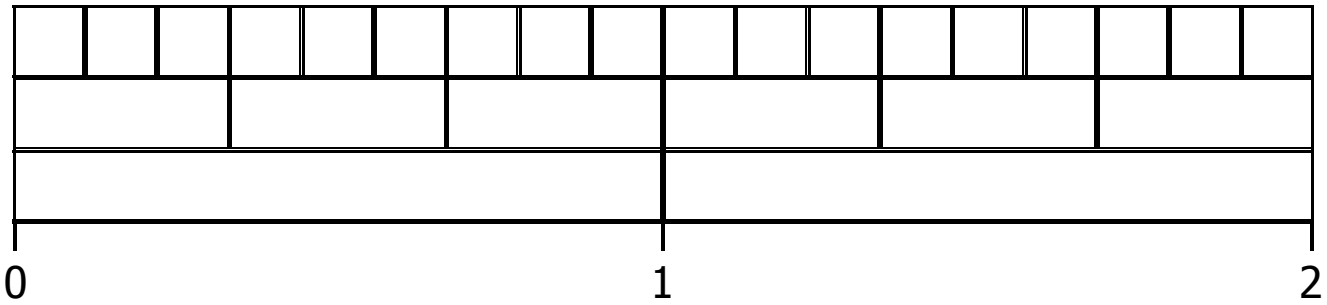
1. What is $\frac{1}{3} \div \frac{1}{9}$? _____

4. What is $\frac{1}{3} \div \frac{1}{18}$? _____

2. What is $\frac{2}{3} \div \frac{2}{9}$? _____

5. What is $\frac{1}{3} \div \frac{3}{18}$? _____

3. What is $\frac{2}{3} \div \frac{8}{9}$? _____



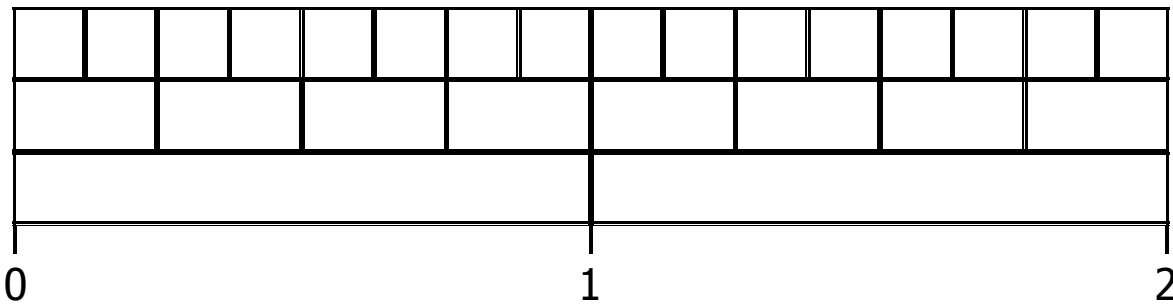
6. What is $\frac{1}{4} \div \frac{1}{8}$? _____

9. What is $\frac{1}{4} \div \frac{1}{16}$? _____

7. What is $\frac{3}{4} \div \frac{2}{8}$? _____

10. What is $\frac{1}{4} \div \frac{3}{16}$? _____

8. What is $\frac{3}{4} \div \frac{7}{8}$? _____



Common Multiplication & Division Situations	Product Unknown $3 \times 6 = ?$	Group Size Unknown “How many in each group?” partitive or sharing $3 \times ? = 18, 18 \div 3 = ?$	Group Number Unknown “How many groups?” quotative or grouping $? \times 6 = 18, 18 \div 6 = ?$
3.OA.3 Equal Groups	<p>1a. There are 3 bags with 6 plums in each bag. How many plums are there in all?</p> <p><i>1b. Measurement example.</i> You need 3 lengths of string, each 6 inches long. How much string will you need altogether?</p>	<p>2a. If 18 plums are shared equally into 3 bags, then how many plums will be in each bag?</p> <p><i>2b. Measurement example.</i> You have 18 inches of string, which you will cut into 3 equal pieces. How long will each piece of string be?</p>	<p>3a. If 18 plums are to be packed 6 to a bag, then how many bags are needed?</p> <p><i>3b. Measurement example.</i> You have 18 inches of string, which you will cut into pieces that are 6 inches long. How many pieces of string will you have?</p>
3.OA.3 Arrays Area	<p>4a. There are 3 rows of apples with 6 apples in each row. How many apples are there?</p> <p><i>4b. Area example.</i> What is the area of a 3 cm by 6 cm rectangle?</p>	<p>5a. If 18 apples are arranged into 3 equal rows, how many apples will be in each row?</p> <p><i>5b. Area example.</i> A rectangle has area 18 square centimeters. If one side is 3 cm long, how long is a side next to it?</p>	<p>6a. If 18 apples are arranged into equal rows of 6 apples, how many rows will there be?</p> <p><i>6b. Area example.</i> A rectangle has area 18 square centimeters. If one side is 6 cm long, how long is a side next to it?</p>
4.OA.2. Compare	<p>1a. A blue hat costs \$6. A red hat costs 3 times as much as the blue hat. How much does the red hat cost?</p> <p><i>1b. Measurement example.</i> A rubber band is 6 cm long. How long will the rubber band be when it is stretched to be 3 times as long?</p>	<p>2a. A red hat costs \$18 and that is 3 times as much as a blue hat costs. How much does a blue hat cost?</p> <p><i>2b. Measurement example.</i> A rubber band is stretched to be 18 cm long and that is 3 times as long as it was at first. How long was the rubber band at first?</p>	<p>3a. A red hat costs \$18 and a blue hat costs \$6. How many times as much does the red hat cost as the blue hat?</p> <p><i>3b. Measurement example.</i> A rubber band was 6 cm long at first. Now it is stretched to be 18 cm long. How many times as long is the rubber band now as it was at first?</p>
General	$a \times b = ?$	$a \times ? = p, p \div a = ?$	$? \times b = p, p \div b = ?$

Multiplication & Division Problems

1. There are 4 pens.
There are 12 cattle in each pen.
How many cattle are there all together?

2. There are 40 pens.
There are 12 cattle in each pen.
How many cattle are there all together?

Multiplication & Division Problems

3. 63 students are going to the game.
They divide themselves equally into 9 vans.
How many students are in each van?
4. A farmer has 54 eggs.
Each carton of eggs holds 6 eggs.
How many cartons of eggs does the farmer have?

Multiplication & Division Problems

5. 67 kids are going to lunch. Each table can seat 8 kids.
What is the fewest number of tables they will need?

6. The 4th grade class raised \$487.
Movie tickets cost \$7 each.
How many tickets can they buy?

Fraction Word Problems

3. Jeremy has 4 granola bars and shares them equally with 2 friends. How much do each of the 3 friends get?
4. $\frac{3}{4}$ of the class play an instrument. $\frac{2}{3}$ of the students who play an instrument also play a sport. What fraction of the class plays both an instrument and a sport?

Fraction Word Problems

5. A rug measures $3 \frac{1}{4}$ feet by $4 \frac{1}{3}$ feet. What is the area of this rug in square feet?
6. Pablo uses $\frac{1}{3}$ gallons of paint to paint 3 ceramic bowls. If each gets the same amount of paint, how much paint is on each bowl?

Fraction Word Problems

7. To mow her entire lawn, Miranda needs 2 gallons of gas. If she only has $\frac{1}{2}$ of a gallon, what fraction of her lawn can she mow?
8. During the first 2 weeks of April, Emily ran 32 miles. If that distance is $\frac{1}{3}$ of her goal for the month, what is her goal for April?

Fraction Word Problems

9. Tim bought an 8 pound bag of birdseed. His birdfeeder can hold $\frac{1}{3}$ pounds of seed. How many times can he fill his birdfeeder?
10. Katie spent $3\frac{3}{4}$ hours at the library and finished $\frac{3}{4}$ of her homework. How much longer will it take her to finish?

Fraction Word Problems

11. A group of students watched soccer practice. When the bell rang, $\frac{3}{4}$ of them went back to class. The other 12 stayed to watch. How many students were there in all?
12. 30 second graders had a choice of 3 instruments to play. Half chose the drums and of the remaining kids, two-thirds chose the guitar and the rest chose the recorder. How many students chose the recorder?

Fraction Word Problems

13. In a recent survey, $\frac{1}{6}$ of the respondents said they do not like their job. Of those who like their job, $\frac{3}{4}$ or 15 people said they also like their spouse. How many people took part in the survey?

14. $\frac{2}{7}$ of the spectators at a soccer game are Canadians, $\frac{1}{4}$ of the remaining spectators are Mexicans, and the rest are Americans. There are 270 Americans. How many spectators are at the soccer match?

Fraction Problems

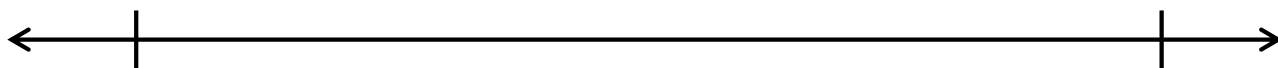
1. 24 is $\frac{3}{4}$ of what number?

2. 30 is $\frac{2}{3}$ of what number?

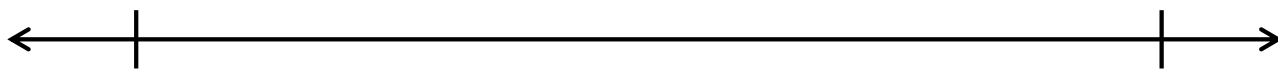
3. 35 is $\frac{7}{5}$ of what number?

Grade 3 Elapsed Time

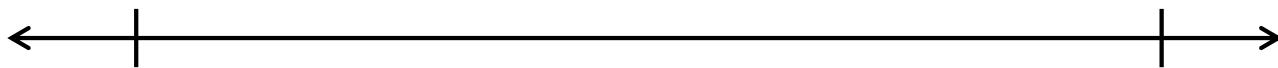
1. Knaya's bus leaves school at 3:35 p.m. and drops her at home 45 minutes later. What time does she arrive at home?



2. The express train leaves Grand Central at 6:45 p.m. and arrives in Sleepy Hollow at 7:23 p.m. How long is the trip?

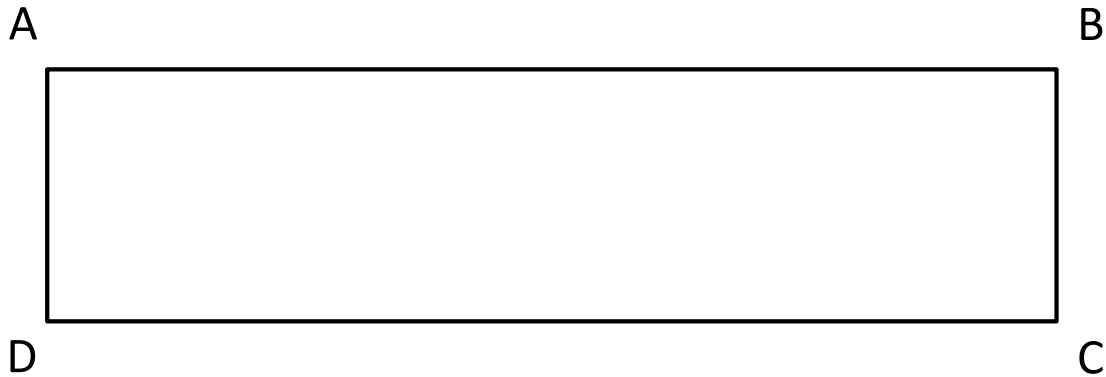


3. It takes Bill 23 minutes to walk to his friend's house. He arrives at 4:10 p.m. What time did he start walking?

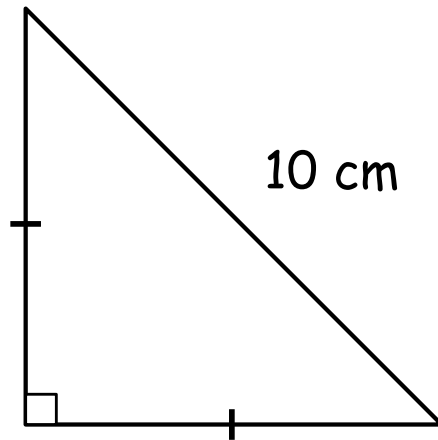


Clever Reasoning Problem #1

ABCD is a rectangle with an area of 196 ft^2 . Its long side is 4 times the length of its short side. What is its perimeter?

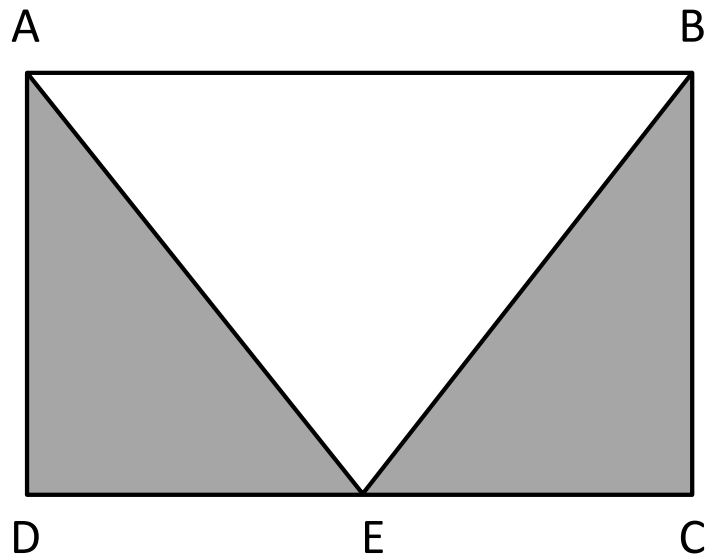


Clever Reasoning Problem #2



Clever Reasoning Problem #3

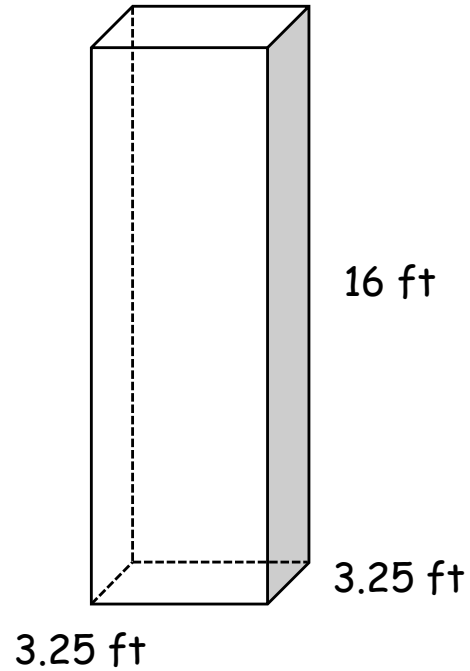
The area of rectangle $ABCD$ is 426 ft^2 . The length of DE is the same length as EC . What is the area of triangle ABE ?



Clever Reasoning Problem #4

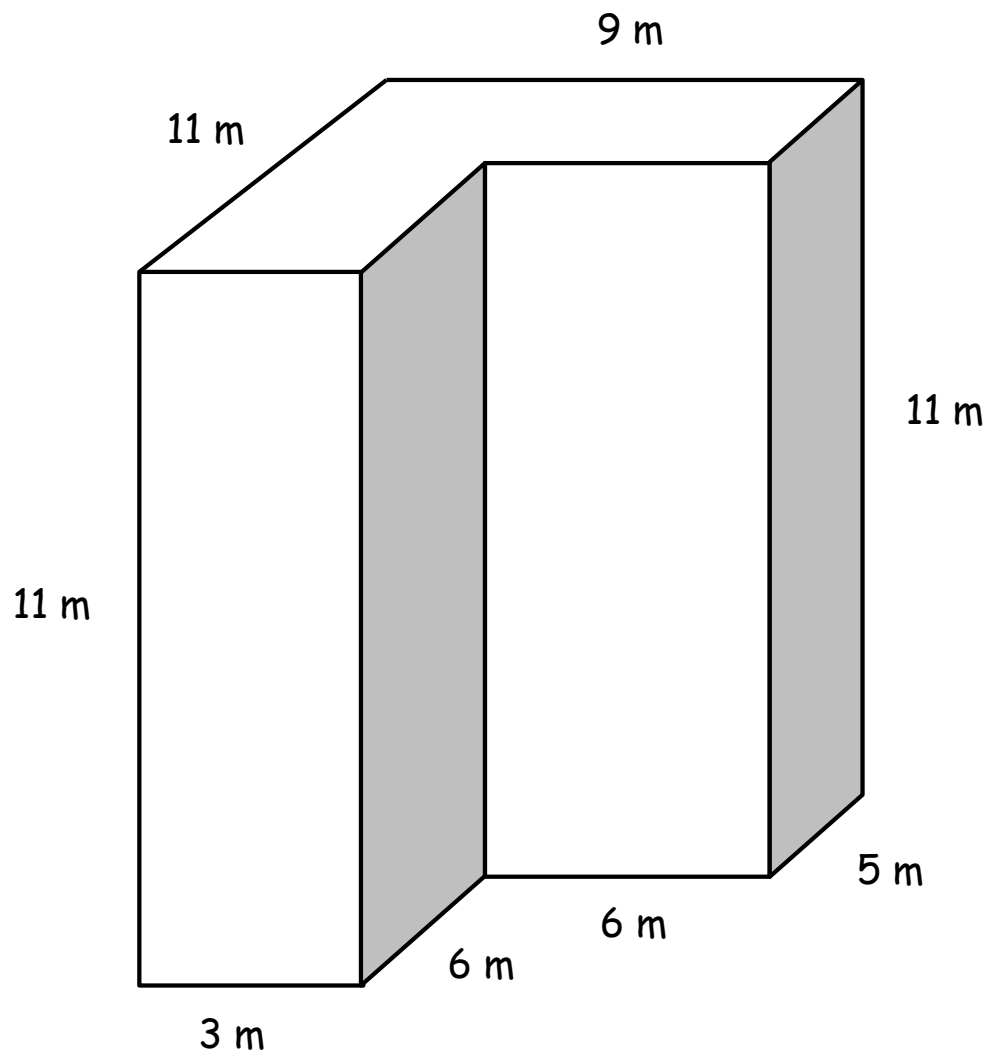
A rectangular prism is shown.

What is the volume,
in **cubic feet**,
of the rectangular
prism?



Clever Reasoning Problem #5

What is the volume, in cubic **meters**, of the solid figure?



Name: _____

MORE OR LESS

Use reasoning and computational skills to complete the table and the graph.

PACK	LEVEL	WEEK
4	C	38

Step-by-step examples at: gregtangmath.com/tutorials

Clues:

There are 68 reptiles.

If you divide the number of cats by 2, you will get the number of snakes.

There are 12 more dogs than turtles.

There are 20 fewer reptiles than mammals.

animals		number
mammals	dogs	
	rabbits	
	cats	
reptiles	turtles	24
	lizards	
	snakes	

dogs								
rabbits								
cats	X	X	X	X	X	X	X	X
turtles								
lizards								
snakes								

X = 4 animals

Name: _____

PACK	LEVEL	WEEK
4	D	38

MORE OR LESS

Use reasoning and computational skills to complete the table and the graph.

Step-by-step examples at: gregtangmath.com/tutorials

Clues:

There are half as many snakes as cats.

Together, there are 84 lizards and cats.

There are 24 more reptiles than mammals.

In the graph, the turtles have 3 more Xs than the cats.

There are three times as many turtles as dogs.

animals		number
mammals	dogs	
	rabbits	
	cats	
reptiles	turtles	54
	lizards	
	snakes	

dogs									
rabbits									
cats	X	X	X	X	X	X			
turtles									
lizards									
snakes									

X = ___ animals

Name: _____

PACK	LEVEL	WEEK
4	E	38

MORE OR LESS

Use reasoning and computational skills to complete the table and the graph.

Step-by-step examples at: gregtangmath.com/tutorials

Clues:

Half of the mammals are cats.

There are five times as many turtles as dogs.

Together, there are 88 lizards and cats.

In the graph, the turtles have 2 more Xs than the cats.

1/6 of the total number of animals are rabbits.

animals		number
mammals	dogs	
	rabbits	
	cats	
reptiles	turtles	80
	lizards	
	snakes	

dogs										
rabbits										
cats	X	X	X	X	X	X	X	X		
turtles										
lizards										
snakes										

X = ___ animals