

Name: ..... Class: .....

## Arithmetic sequences with fractions

**a.** Find the next fraction in this sequence

$$\frac{1}{9}, \frac{3}{9}, \frac{5}{9}, \dots$$

**b.** Find the next fraction in this sequence

$$\frac{7}{8}, \frac{6}{8}, \frac{5}{8}, \frac{4}{8}, \frac{3}{8}, \dots$$

**c.** Find the next fraction in this sequence

$$\frac{9}{10}, \frac{7}{10}, \frac{5}{10}, \frac{3}{10}, \dots$$

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## Arithmetic sequences with fractions

a. Find the next fraction in this sequence

$$\frac{1}{9}, \frac{3}{9}, \frac{5}{9}, \dots$$

First of all, let's find the general trend in this sequence

You see that the numerators of the fractions increase by 2 each time

So, the general trend is add  $\frac{2}{9}$ Now add  $\frac{2}{9}$  to  $\frac{5}{9}$  to get the next fraction

$$\frac{2}{9} + \frac{5}{9} = \frac{7}{9} \quad \text{So, the next fraction is } \boxed{\frac{7}{9}}$$

b. Find the next fraction in this sequence

$$\frac{7}{8}, \frac{6}{8}, \frac{5}{8}, \frac{4}{8}, \frac{3}{8}, \dots$$

First of all, let's find the general trend in this sequence

You see that the numerators of the fractions decrease by 1 each time

So, the general trend is subtract  $\frac{1}{8}$ Subtract  $\frac{1}{8}$  from  $\frac{3}{8}$  to get the next fraction

$$\frac{3}{8} - \frac{1}{8} = \frac{2}{8} \quad \text{So, the next fraction is } \boxed{\frac{2}{8}}$$



c. Find the next fraction in this sequence

$$\frac{9}{10}, \frac{7}{10}, \frac{5}{10}, \frac{3}{10}, \dots$$

You see that the numerators of the fractions decrease by 2 each time

So, the general trend is subtract  $\frac{2}{10}$ Subtract  $\frac{2}{10}$  from  $\frac{3}{10}$  to get the next fraction

$$\frac{3}{10} - \frac{2}{10} = \frac{1}{10} \quad \text{So, the next fraction is } \boxed{\frac{1}{10}}$$