

① Convert these improper fractions to mixed fraction.

$$(1) \frac{11}{9} = 1 + \frac{2}{9} = 1\frac{2}{9}$$

$$9 \overline{)11}$$

02

$$(2) \frac{12}{7} = 1 + \frac{5}{7} = 1\frac{5}{7}$$

$$7 \overline{)12}$$

05

$$\frac{6 \times 2 + 1}{6} = \frac{6 \times 2}{6} + \frac{1}{6} = 2\frac{1}{6}$$

$$(3) \frac{13}{6} = 2 + \frac{1}{6} = 2\frac{1}{6}$$

$$6 \overline{)13}$$

12

01

$$(4) \frac{23}{27} = 0 + \frac{23}{27} = 0\frac{23}{27} = \frac{23}{27}$$

$$27 \overline{)23}$$

0

$$(5) \frac{32}{11} = 2 + \frac{10}{11} = 2\frac{10}{11}$$

$$11 \overline{)32}$$

22

10

② Convert these mixed fractions to improper fraction:

$$\textcircled{2.1} \quad 2\frac{3}{7} = 2 + \frac{3}{7} = \underline{2 \times 7} + \frac{3}{7} = \underline{\frac{14}{7}} + \frac{3}{7} = \underline{\frac{14+3}{7}} = \underline{\frac{17}{7}}$$

✓

$$\textcircled{2.2} \quad 19\frac{23}{42} = 19 + \frac{23}{42} = \underline{19 \times 42} + \frac{23}{42}$$
$$\qquad\qquad\qquad + \begin{array}{r} 42 \\ 19 \\ \hline 378 \end{array}$$
$$= 798 + \underline{23}$$
$$\qquad\qquad\qquad + \begin{array}{r} 42 \\ 798 \\ \hline 420 \end{array}$$
$$= \underline{\frac{821}{42}}$$

✓

$$+ \begin{array}{r} 798 \\ 23 \\ \hline 821 \end{array}$$

2.3 $16\frac{2}{3} = 16 + \frac{2}{3} = 16 \times 3 + \frac{2}{3} = \frac{48 + 2}{3} = \frac{50}{3}$

2.4 $15\frac{9}{11} = 15 + \frac{9}{11} = \frac{15 \times 11}{11} + \frac{9}{11} = \frac{(165 + 9)}{11} = \frac{174}{11}$

2.5 $2\frac{1}{9} = 2 + \frac{1}{9} = \frac{2 \times 4}{9} + \frac{1}{9} = \frac{18 + 1}{9} = \frac{25}{9}$

9 not 4

③ Compute the following using decimal division and then addition, as well as fractional addition and then decimal division

③.1 $\frac{3+2}{9-7} = \frac{3 \times 1 + \frac{2}{7} \times 1}{\frac{9}{7} - \frac{7}{7}} = \frac{3 \times 7 + 2 \times 9}{9 \times 7} = \frac{39}{63} = 0.619\dots$

$= 0.333 + 0.285\dots$

$= 0.618\dots$

$63) 39.000\dots$

$+ \frac{0.333\dots}{0.285}$

$= 0.618\dots$

$7) 2.0$

$\frac{0}{24}$

$- 060$

$\frac{56}{040}$

$\frac{35}{05}$

$\times \frac{13}{55}$

$\frac{0}{390}$

$378 \overline{)570}$

$\frac{0120}{570}$

$\left. \begin{array}{r} 567 \\ 63 \end{array} \right\} 003$

$\times \frac{63}{378} \quad \frac{63}{567}$

$\frac{63}{153}$

$\frac{65}{724}$

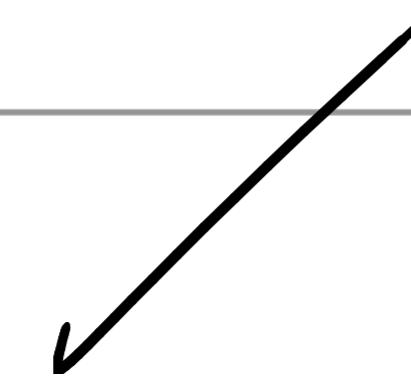
$\frac{65}{89}$

$\frac{153}{213}$

3.2

$$\frac{6}{5} + \frac{13}{4} = \frac{6}{5} \times 1 + \frac{13}{4} + 1 = \frac{6}{5} \times \frac{4}{4} + \frac{13}{4} \times \frac{5}{5} = \frac{6 \times 4 + 13 \times 5}{5 \times 4} = \frac{89}{20} = 4.45$$
$$= 1.2 + 3.25$$

$$= 4.45$$



$\begin{array}{r} 1.2 \\ \hline 5) 6.0 \\ - 5 \\ \hline 10 \\ - 10 \\ \hline 00 \end{array}$	$\begin{array}{r} 4.45 \\ \hline 2) 89.00 \\ - 80 \\ \hline 90 \\ - 80 \\ \hline 10 \\ - 10 \\ \hline 0 \end{array}$
$\begin{array}{r} 3.25 \\ \hline 4) 13.00 \\ - 12 \\ \hline 10 \\ - 8 \\ \hline 20 \\ + 1.20 \\ \hline 3.25 \end{array}$	$\begin{array}{r} 13 \\ \hline \begin{array}{r} 100 \\ \times 5 \\ \hline 65 \end{array} \\ + 20 \\ \hline 4.45 \\ \hline 20 \\ \hline 00 \end{array}$
	$\begin{array}{r} 65 \\ + 24 \\ \hline 89 \end{array}$

$$\begin{aligned} 3.3 \quad & 12 + 17 = \frac{12}{9} + \frac{17}{5} = \frac{12 \times 5}{9 \times 5} + \frac{17 \times 9}{9 \times 5} = \frac{12 \times 5 + 17 \times 9}{9 \times 5} = \frac{213}{45} = 4.733 \\ & = 1.333 + 3.4 \end{aligned}$$

$$= 4.733\bar{1}$$

A thick black line starts at the bottom left corner and curves upwards and to the right, ending near the top right corner. The curve is smooth and S-shaped.

$$\begin{array}{r} 4.73 \\ \times 45 \\ \hline 180 \\ 12\bar{1} \\ \hline 0330 \end{array}$$

$$\begin{array}{r} 315 \\ \hline 0150 \\ \hline 135 \\ \hline 0150 \end{array}$$

$$\begin{array}{r} 135 \\ \hline 075 \end{array}$$

$$\begin{array}{r} 1.33 \\ \hline 9 \sqrt{12.00} \\ \underline{-9} \\ \hline 30 \\ \underline{-27} \\ \hline 30 \\ \underline{-27} \\ \hline 30 \end{array}$$

$$\begin{array}{r} +1.3333\cdots \\ -3.4000 \\ \hline 4.7333\cdots \end{array}$$

17
+ 9
153

$$\begin{array}{r} 3.4 \\ 5 \overline{)17.0} \\ \underline{-15} \\ \hline 020 \\ \underline{-20} \\ \hline 00 \\ \begin{array}{l} 2 \\ 45 \\ \underline{-4} \\ 0 \end{array} \\ \begin{array}{r} 225 \\ \times 5 \\ \hline 1125 \end{array} \\ \begin{array}{r} 345 \\ \times 7 \\ \hline 245 \end{array} \\ \hline 315 \end{array}$$

$$\begin{array}{r} 45 \\ + 3 \\ \hline 135 \end{array}$$

$$\begin{array}{r} & 153 \\ + & 68 \\ \hline 213 \end{array}$$

Write all the steps

$$\frac{16}{17} + \frac{2}{7} = \frac{16 \times 1 + 2}{17} = \frac{16 \times 7 + 2 \times 17}{17 \times 7} = \frac{112 + 34}{119} = \frac{146}{119} = 1.2269 \quad \checkmark$$

3.4 $\frac{16}{17} + \frac{2}{7} = \frac{16 \times 1 + 2}{17} = \frac{16 \times 7 + 2 \times 17}{17 \times 7} = \frac{112 + 34}{119} = \frac{146}{119} = 1.2269$

$$= 0.9411 + 0.2857$$

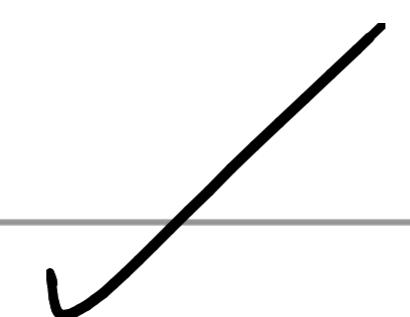
$$= 1.2268$$

3.5

$$\frac{15}{8} + \frac{7}{4} = \frac{15}{8} + \frac{7}{4} \times 1 = \frac{15}{8} + \frac{7}{4} \times \frac{8}{8} = \frac{15 \times 4 + 7 \times 8}{8 \times 4} = \frac{116}{32} = 3.625$$

$$= 1.875 + 1.75$$

$$= 3.625$$



$\frac{7}{16}$

$$\begin{array}{r} \times 7 \\ \hline 112 \end{array}$$

$$\begin{array}{r} 3.625 \\ \hline 32 \overline{)116.00} \end{array}$$

$$\begin{array}{r} 96 \\ \hline 0200 \end{array}$$

$$\begin{array}{r} 192 \\ \hline 0080 \\ 64 \\ \hline 160 \end{array}$$

$$\begin{array}{r} 1.875 \\ 8 \overline{)15.000} \\ \hline 8 \\ \hline 70 \\ \hline 64 \\ \hline 060 \\ \hline 56 \\ \hline 040 \\ \hline 40 \\ \hline 000 \end{array}$$

$$\begin{array}{r} 1.75 \\ 4 \overline{)7.00} \\ \hline 4 \\ \hline 30 \\ \hline 28 \\ \hline 020 \\ \hline 20 \\ \hline 00 \end{array} \quad \begin{array}{r} + 112 \\ \hline 34 \\ \hline 146 \\ \hline 146 \\ \hline 0 \end{array} \quad \begin{array}{r} + 7 \\ \hline 119 \end{array}$$

$$\begin{array}{r} 60 \\ \hline 116 \\ \hline 56 \\ \hline 116 \\ \hline 00 \\ \hline 32 \\ \hline 32 \\ \hline 00 \\ \hline 1.875 \\ \hline 1.750 \\ \hline 3.625 \end{array}$$

