

Recognizing Roman numerals: I, V, X, L, C, D and M

We use **Arabic numerals** to write numbers. The early Romans used different notation, as shown below.

| | | | | | | | |
|--------|---|---|----|----|-----|-----|-------|
| Roman | I | V | X | L | C | D | M |
| Arabic | 1 | 5 | 10 | 50 | 100 | 500 | 1,000 |

Roman numerals are written by putting them in order from greatest to least value.

In order to change from Roman to Arabic, the values of each numeral are then added.

This system does not have place value the way Arabic does.

| | | | |
|---------------------------------|---|-----------------------------|--------------------------|
| ① XVI = $\frac{10}{5} + 1 = 16$ | ② CLXX = $\frac{100}{50} + 10 + 10 = 170$ | ③ XVIII = $10 + 5 + 3 = 18$ | ④ CCL = $200 + 50 = 250$ |
|---------------------------------|---|-----------------------------|--------------------------|

In any given number, a Roman numeral can only be repeated 3 times. To allow for numbers like 4 or 9, if a lesser value numeral precedes a numeral of greater value, the lesser value numeral is subtracted instead of added.

| | |
|--|--------------------------------|
| ⑤ MXXIV = $1,000 + 20 + (5 - 1) = 1,024$ | ⑥ CIX = $100 + (10 - 1) = 109$ |
| ⑦ DLIV = $(500 + 50) + (5 - 1) = 554$ | ⑧ XCII = $(100 - 10) + 2 = 92$ |

| | | |
|----------------------------------|-------------------------------------|------------------------------|
| LXXIV = $\frac{50}{20} + 4 = 74$ | CCXLIV = $\frac{200}{40} + 4 = 244$ | 1 318 |
| | | $\frac{74}{244} + 244 = 318$ |

| | | | |
|---|---|---|------------------------------------|
| $\begin{array}{r} .8 \\ 3.75 \\ + .78 \\ \hline 5.33 \end{array}$ | $\begin{array}{r} 5.02 \\ - .18 \\ \hline 4.84 \end{array}$ | $\begin{array}{r} .74 \\ .8 \\ + 2.35 \\ \hline 3.89 \end{array}$ | A 14.06 |
| | | | $\frac{5.33}{4.84} + 3.89 = 14.06$ |

| | | | |
|--|--|---|---|
| $38 \overline{)84} \begin{array}{r} 2 \text{ r}8 \\ -76 \\ \hline 8 \end{array}$ | $1 \overline{)207} \begin{array}{r} 207 \\ -2 \\ \hline 007 \\ -7 \\ \hline 0 \end{array}$ | $7 \overline{)4837} \begin{array}{r} 691 \\ -42 \\ \hline 63 \\ -63 \\ \hline 07 \\ -7 \\ \hline 0 \end{array}$ | B 900 r8 |
| | | | $\frac{2 \text{ r}8}{207} + 691 = 900 \text{ r}8$ |

Circle the denominator of the fraction in the set with the least value.

$\left(\frac{9}{3}, \frac{6}{6}, \frac{5}{2}, \frac{14}{7}, \frac{6}{5} \right)$

$\frac{9}{4} = 2 \frac{1}{4}$

$\frac{18}{4} = 4 \frac{2}{4}$

6

$2 \frac{1}{4}$

$+ 4 \frac{2}{4}$

12 $\frac{3}{4}$

D 35,968

Select the number from the given set to fill in the blank

(4,312 ; 3,454 ; 3,445 ; 3,545)

| | | |
|--|--|--|
| $\begin{array}{r} 264 \\ \times 83 \\ \hline 792 \\ 21120 \\ \hline 21912 \end{array}$ | $\begin{array}{r} 393 \\ \times 27 \\ \hline 2751 \\ 7860 \\ \hline 10611 \end{array}$ | 3,445 |
| | | $\frac{3,445}{21,912} + 10,611 = 35,968$ |

3,449 > 3,445