Fractions

1. $\frac{13}{3}+2\times\frac{52}{12}=?$

   A. 13
   B. 10.4
   C. $10\frac{3}{4}$
   D. $10\frac{2}{3}$
   E. $7\frac{1}{3}$

2. $\frac{6}{13}(\frac{5}{7}-\frac{1}{4})=?$

   A. $\frac{3}{28}$
   B. $\frac{3}{14}$
   C. 0.2
   D. 2
   E. 0.22

3. $\frac{1}{4}+\frac{7}{8}+\frac{3}{2}-1\frac{2}{16}=?$

   A. 1.5
   B. 5
   C. $\frac{1}{5}$
   D. $\frac{3}{8}$
   E. 1

4. $\frac{1}{2}+\frac{1}{2}-\frac{1}{2}-\frac{3}{4}=?$

   A. -0.2
   B. 0.25
   C. 0
   D. -0.25
   E. 1

5. $\frac{4}{20}+\frac{1}{10}-\frac{2}{20}-3=?$

A. $3\frac{1}{5}$
B. 4.5
C. $-2\frac{4}{5}$
D. -0.5
E. 0.5

6. $(\frac{2}{7}-\frac{1}{3})*(\frac{5}{3}-\frac{14}{6})=?$

A. $\frac{2}{63}$
B. -2.4
C. $-\frac{2}{63}$
D. 3
E. 3.23

7. $\frac{\frac{4}{7}}{\frac{1}{9}}+3=?$

A. 22.2
B. $8\frac{1}{7}$
C. 0.24
D. 0.21
E. 0

8. $\frac{\frac{1}{2}}{\frac{1}{3}+\frac{1}{4}}-\frac{1}{7}=?$

A. $\frac{7}{5}$

B. $-\frac{7}{5}$

C. $\frac{5}{7}$

D. 0.4

E. $-\frac{5}{7}$

9. $\frac{1}{3} * \frac{7}{2} - \frac{4}{5} * (4\frac{1}{3}) = ?$

A. 3.8
B. 2.3
C. 4
D. 3.999
E. 2.33

10. $\frac{1}{2} + \frac{2}{5} + \frac{7}{10} - 2\frac{1}{4} + 6\frac{3}{4} = ?$

A. 6.1
B. 61.1
C. 0.61
D. 0.061
E. 6.01

FRACTIONS ANSWERS

1. A

First, $\frac{52}{12}=\frac{13}{3}$. Now, we can take $\frac{13}{3}$ out of both expressions: $\frac{13}{3}(1+2)=\frac{13}{3}\times 3=13$

2. B

First perform the operation inside the brackets and then multiply.
$\frac{5}{7}-\frac{1}{4}=\frac{5*4-1*7}{28}=\frac{13}{28}$. Now you can multiply: $\frac{6}{13}\times\frac{13}{28}$. Here cancel out 13 from both fractions: $\frac{6}{13}\times\frac{13}{28}=\frac{6}{28}$. Reduce the fraction the top and botton by 2:
$\frac{6}{28}=\frac{3}{14}$.

3. A

Simplify $1\frac{2}{16}$: $1\frac{2}{16}=\frac{1*16+2}{16}=\frac{18}{16}=\frac{9}{8}$.
Now solve: $\frac{1}{4}+\frac{7}{8}+\frac{3}{2}-\frac{9}{8}$. The common denominator is 8:
$\frac{1*2+7+3*4-9}{8}=\frac{2+7+12-9}{8}$, which equals $\frac{12}{8}$, or $\frac{4*3}{4*2}=\frac{3}{2}=1\frac{1}{2}$, which in turn is 1.5.

4. D

The common denominator is 4 and you can cancel out $\frac{1}{2}-\frac{1}{2}$ as they equal 0. You have now: $\frac{1}{2}-\frac{3}{4}=\frac{1*2-3}{4}=\frac{-1}{4}=-\frac{1}{4}$, which in turn equals -0.25

5. C

The common denominator is 20:
$\frac{4+1*2-2-3*20}{20}=\frac{-56}{20}=-\frac{56}{20}$.
Simplify: $-\frac{56}{20}=-\frac{4*14}{4*5}=-\frac{14}{5}=-2\frac{4}{5}$.

6. A

First perform actions inside the brackets and then multiply:
$\frac{2}{7}-\frac{1}{3}=\frac{2*3-1*7}{21}=\frac{-1}{21}$.
$\frac{5}{3}-\frac{14}{6}=\frac{5*2-14}{6}=\frac{-4}{6}=-\frac{2}{3}$. Now multiply: $(-\frac{1}{21})(-\frac{2}{3})=\frac{-1*-2}{21*3}=\frac{2}{63}$

7. B

First divide the fractions, then add:
$\frac{\frac{4}{7}}{\frac{1}{9}}=\frac{4}{7}*\frac{9}{1}=\frac{36}{7}$. When dividing fractions, you multiply numerator by the inverted denominator! Now simplify and add:
$\frac{36}{7}=5\frac{1}{7},\ 5\frac{1}{7}+3=8\frac{1}{7}$.

8. C

First add fractions in denominator, then divide the fractions and then subtract:
$\frac{1}{3}+\frac{1}{4}=\frac{1*4+1*3}{12}=\frac{7}{12}$.
$\frac{\frac{1}{2}}{\frac{7}{12}}=\frac{1}{2}*\frac{12}{7}=\frac{6}{7}$. Now subtract:
$\frac{6}{7}-\frac{1}{7}=\frac{6-1}{7}=\frac{5}{7}$.

9. B

First perform multiplication and then subtract: $\frac{1}{3}*\frac{7}{2}=\frac{1*7}{3*2}=\frac{7}{6}$.
$\frac{4}{5}*4\frac{1}{3}=\frac{4}{5}*\frac{13}{3}=\frac{4*13}{5*3}=\frac{52}{15}$. Now subtract $\frac{7}{6}-\frac{52}{15}$. The common denominator is 30:

$\frac{7}{6} - \frac{52}{15} = \frac{7*5 - 52*2}{30} = \frac{35 - 104}{30} = \frac{69}{30}$.
-69/30 simplify the answer by reducing nominator and denominator by 3:
$\frac{69}{30} = \frac{3*23}{3*10} = \frac{23}{10}$, which in turn equals -2.3.

10. A

This problem can be solved as a fraction exercise fairly fast, but the fastest way is to convert to decimals:
0.5 + 0.4 + 0.7 - 2.25 + 6.75 = 1.6+4.5 = 6.1