Maths homework this half term is all about fractions - these appear a lot in the SATs papers so please take the time to practice.

a) Simplify these fractions:

$\frac{15}{20}$	
$\frac{3}{12}$	
$\frac{6}{10}$	
$\frac{2}{8}$	
$\frac{6}{18}$	

b) Identify the equivalent fraction, using the denominators shown:

$\frac{8}{10}$	=	$\frac{\quad}{5}$
$\frac{14}{16}$	=	$\frac{\quad}{8}$
$\frac{4}{12}$	=	$\frac{\quad}{6}$
$\frac{10}{15}$	=	$\frac{\quad}{3}$
$\frac{6}{24}$	=	$\frac{\quad}{8}$

2. Compare and order fractions, including fractions > 1.

a) Put these fractions in order, from smallest to largest:

$1\frac{1}{2}$ $1\frac{3}{4}$ $\frac{2}{3}$ $\frac{2}{5}$ $1\frac{1}{6}$ $\frac{1}{4}$

smallest largest

$\frac{4}{3}$ $\frac{5}{4}$ $\frac{7}{8}$ $\frac{13}{8}$ $\frac{2}{3}$ $\frac{9}{5}$

smallest largest

$1\frac{3}{4}$ $\frac{9}{10}$ $\frac{3}{2}$ $1\frac{1}{5}$ $\frac{5}{3}$ $1\frac{7}{8}$

smallest largest

$\frac{15}{2}$ $6\frac{1}{2}$ $\frac{15}{4}$ $4\frac{3}{4}$ $\frac{15}{3}$ $5\frac{2}{3}$

smallest largest

b) Use the symbols < > or = to compare each pair of fractions:

	< > or =	
$\frac{1}{4}$		$\frac{3}{12}$
$1\frac{4}{5}$		$\frac{8}{5}$
$\frac{3}{2}$		$1\frac{1}{2}$
$\frac{11}{6}$		$1\frac{3}{4}$
$1\frac{3}{4}$		$\frac{5}{2}$
$\frac{13}{10}$		$1\frac{2}{5}$

3. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.

a) Complete these addition calculations. Write the answer in its simplest form, using mixed numbers where needed.

$\frac{3}{5} + \frac{2}{3} =$
$1\frac{3}{4} + \frac{3}{5} =$
$\frac{7}{8} + 2\frac{1}{5} =$
$\frac{9}{10} + \frac{1}{6} =$
$2\frac{7}{12} + 1\frac{1}{2} =$

question	answer	marks	notes
1. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.			
a	$\frac{15}{20}$ = $\frac{3}{4}$ $\frac{3}{12}$ = $\frac{1}{4}$ $\frac{6}{10}$ = $\frac{3}{5}$ $\frac{2}{8}$ = $\frac{1}{4}$ $\frac{6}{18}$ = $\frac{1}{3}$	5	
b	$\frac{8}{10}$ = $\frac{4}{5}$ $\frac{14}{16}$ = $\frac{7}{8}$ $\frac{4}{12}$ = $\frac{2}{6}$ $\frac{10}{15}$ = $\frac{2}{3}$ $\frac{6}{24}$ = $\frac{2}{8}$	5	
2. Compare and order fractions, including fractions > 1.			
a	$\frac{1}{4}$ $\frac{2}{5}$ $\frac{2}{3}$ $1\frac{1}{6}$ $1\frac{1}{2}$ $1\frac{3}{4}$ smallest … largest $\frac{2}{3}$ $\frac{7}{8}$ $\frac{5}{4}$ $\frac{4}{3}$ $\frac{13}{8}$ $\frac{9}{5}$ smallest … largest $\frac{9}{10}$ $1\frac{1}{5}$ $\frac{3}{2}$ $\frac{5}{3}$ $1\frac{3}{4}$ $1\frac{7}{8}$ smallest … largest $\frac{15}{4}$ $4\frac{3}{4}$ $\frac{15}{3}$ $5\frac{2}{3}$ $6\frac{1}{2}$ $\frac{15}{2}$ smallest … largest	4	
b	$\frac{1}{4}$ = $\frac{3}{12}$ $1\frac{4}{5}$ > $\frac{8}{5}$ $\frac{3}{2}$ = $1\frac{1}{2}$ $\frac{11}{6}$ > $1\frac{3}{4}$ $1\frac{3}{4}$ < $\frac{5}{2}$ $\frac{13}{10}$ < $1\frac{2}{5}$	6	

question	answer	marks	notes
3. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.			
a	$\frac{3}{5} + \frac{2}{3} = 1\frac{4}{15}$ $1\frac{3}{4} + \frac{3}{5} = 2\frac{7}{20}$ $\frac{7}{8} + 2\frac{1}{5} = 3\frac{3}{40}$ $\frac{9}{10} + \frac{1}{6} = 1\frac{1}{15}$ $2\frac{7}{12} + 1\frac{1}{2} = 4\frac{1}{12}$	5	