Algebra Test 1 Solutions

MS ①

1. a) $3 \cdot 4 = \boxed{12}$

b) $12 - 7 = \boxed{5}$

c) $7 - 12 = \boxed{-5}$

d) $4^2 = \boxed{16}$

e) $7 - 2 \cdot 3$
$= 7 - 6$
$= \boxed{1}$

f) $4 \cdot (7 - 2)$
$= 4 \cdot (5)$
$= \boxed{20}$

g) $6 - 8/2$
$= 6 - 4$
$= \boxed{2}$

2. $xy - z$
$= 2 \cdot (-12) - 4$
$= -24 - 4$
$= \boxed{-28}$

3. a) $0.5 > 0.4$

b) $0.415 < 0.5$

c) $0.31 = 0.310$

4. a)
$$\begin{array}{r} 3.4 \\ +\,5.2 \\ \hline \boxed{8.6} \end{array}$$

b)
$$\begin{array}{r} 9\,9.'5 \\ -\,3.7 \\ \hline \boxed{5.8} \end{array}$$

c)
$$\begin{array}{r} \boxed{3.85} \\ 4\overline{)15.40} \\ -12 \\ \hline 34 \\ 32 \\ \hline 20 \end{array}$$

5. xy

$= 0.6 \cdot 4.2$

4.2
×0.6
2.52

6. a) $54000 = \boxed{5.4 \times 10^4}$

b) $514 = \boxed{5.14 \times 10^2}$

c) $0.0054 = \boxed{5.4 \times 10^{-3}}$

7. a) $6.7 \times 10^3 = \boxed{6700}$

b) $5.14 \times 10^{-3} = \boxed{0.00514}$

8. a) $\frac{1}{5} + \frac{3}{5} = \boxed{\frac{4}{5}}$

b) $\frac{1}{4} + \frac{1}{5} = \frac{5}{5} \cdot \frac{1}{4} + \frac{1}{5} \cdot \frac{4}{4}$

$= \frac{5}{20} + \frac{4}{20}$

$= \boxed{\frac{9}{20}}$

c) $\frac{7}{3} - \frac{3}{4} = \frac{4}{4} \cdot \frac{7}{3} - \frac{3}{4} \cdot \frac{3}{3}$

$= \frac{28}{12} - \frac{9}{12}$

$= \boxed{\frac{17}{12} \text{ or } 1\frac{5}{12}}$

9. a) $\boxed{\frac{2}{7} > \frac{1}{7}}$

b) $\boxed{-\frac{8}{9} < \frac{2}{9}}$

c) $\frac{7}{7} \cdot \frac{3}{5}$? $\frac{4}{7} \cdot \frac{5}{5}$

$\frac{21}{35} > \frac{20}{35}$

So $\boxed{\frac{3}{5} > \frac{4}{7}}$

10. a) $\frac{3}{6} = \frac{1}{2}$

b) $\frac{10}{18} = \frac{2 \cdot 5}{2 \cdot 9} = \boxed{\frac{5}{9}}$

11. a) $\frac{1}{4}$

$$\begin{array}{r} 0.25 \\ 4\overline{)1.00} \\ -8 \\ \hline 20 \\ -20 \\ \hline 0 \end{array}$$

b)

$$\begin{array}{r} 0.4285714\ldots \\ 7\overline{)3.0000000} \\ -28 \\ \hline 20 \\ -14 \\ \hline 60 \\ -56 \\ \hline 40 \\ -35 \\ \hline 50 \\ -49 \\ \hline 10 \\ -7 \\ \hline 30 \\ -28 \\ \hline 2 \end{array}$$

$\frac{3}{7} = 0.\overline{428571}$

12. a) $0.5 = \frac{5}{10} = \boxed{\frac{1}{2}}$

b) $0.7 = \boxed{\frac{7}{10}}$