Key

1) Write the sum S, difference D, product P, and quotient Q of each of the following pairs of numbers:

a)

$54+18=$	***72***
$54-18=$	***36***
$54\times18=$	***972***
$54\div18=$	***3***

b)

$4+0=$	***4***
$4-0=$	***4***
$4\times0=$	***0***
$4\div0=$	***undefined***

c)

$0+4=$	***4***
$0-4=$	***–4***
$0\times4=$	***0***
$0\div4=$	***0***

d)

$12+24=$	***36***
$12-24=$	***–12***
$12\times24=$	***288***
$12\div24=$	***0.5000***

e)

$50+75=$	***125***
$50-75=$	***–25***
$50\times75=$	***3750***
$50\div75=$	***0.6667***

2) Perform the indicated operations:

a)	$38+57=$	***95***
b)	$57+38=$	***95***
c)	$15+(33+8)=$	***56***
d)	$(15+33)+8=$	***56***
e)	$(23+64)-(41+12)=$	***34***
f)	$12\times8=$	***96***
g)	$8\times12=$	***96***
h)	$6(4\times8)=$	***192***
i)	$(6\times4)8=$	***192***
j)	$42\times68=$	***2856***
k)	$1296\div36=$	***36***
l)	$\dfrac{(35-23)(28+17)}{43-25}=$	***30***
m)	$45\div15+84\div12=$	***10***
n)	$10\div5-4\div2+15\div3+2\times5=$	***15***
o)	$112\div(4\times7)=$	***4***
p)	$(112\div4)\times7=$	***196***
q)	$\dfrac{15+3\times2}{9-4\div2}=$	***3***

Key

3) Arrange each of the following groups of real numbers in ascending order of magnitude from lowest to highest:

a) $-\sqrt{3},\ -2,\ \sqrt{6},\ -2.8,\ 4,\ 7/2$

$-2.8,\ -2,\ -\sqrt{3},\ \sqrt{6},\ 7/2,\ 4$

–2.80, –2.00, –1.73, 2.45, 3.50, 4.00

b) $2\pi,\ -6,\ \sqrt{8},\ -3\pi,\ 4.8,\ 19/3$

$-3\pi,\ -6,\ \sqrt{8},\ 4.8,\ 2\pi,\ 19/3$

–9.42, –6.00, 2.83, 4.80, 6.28, 6.33

4) Evaluate:

a)	$6+5=$	**a)**	***11***
b)	$(-4)+3=$	**b)**	***–1***
c)	$-8+4=$	**c)**	***–4***
d)	$(-18)+(-3)+22=$	**d)**	***1***
e)	$-(-16)-(-12)+(-5)-15=$	**e)**	***8***

5) Write the sum S, difference D, product P, and quotient Q of each of the following pairs of numbers:

a)

$12+4=$	***16***
$12-4=$	***8***
$12\times 4=$	***48***
$12\div 4=$	***3***

b)

$-6+-3=$	***–9***
$-6--3=$	***–3***
$-6\times -3=$	***18***
$-6\div -3=$	***2***

c)

$-8+4=$	***–4***
$-8-4=$	***–12***
$-8\times 4=$	***–32***
$-8\div 4=$	***–2***

d)

$0+-4=$	***–4***
$0--4=$	***4***
$0\times -4=$	***0***
$0\div -4=$	***0***

e)

$3+-2=$	***1***
$3--2=$	***5***
$3\times -2=$	***–6***
$3\div -2=$	***–1.5000***

Key

6) Convert each of the following fractions into an equivalent fraction having the indicated denominator and write the numerator in the blank:

a) $\frac{2}{5} = \frac{?}{15}$ ***6***

b) $\frac{-4}{7} = \frac{?}{28}$ ***–16***

c) $\frac{5}{16} = \frac{?}{64}$ ***20***

d) $\frac{-10}{3} = \frac{?}{42}$ ***–140***

e) $\frac{11}{12} = \frac{?}{132}$ ***121***

f) $\frac{17}{18} = \frac{?}{90}$ ***85***

7) Write the sum S, difference D, product P, and quotient Q of each of the following pairs of rational numbers:

a) $1/4 + 3/8 =$
$1/4 - 3/8 =$
$1/4 \times 3/8 =$
$1/4 \div 3/8 =$

a) ***5/8 0.6250***
-1/8 -0.1250
3/32 0.0938
2/3 0.6667

b) $1/3 + 2/5 =$
$1/3 - 2/5 =$
$1/3 \times 2/5 =$
$1/3 \div 2/5 =$

b) ***11/15 0.7333***
-1/15 -0.0667
2/15 0.1333
5/6 0.8333

c) $-4 + 2/3 =$
$-4 - 2/3 =$
$-4 \times 2/3 =$
$-4 \div 2/3 =$

c) ***-10/3 -3.3333***
-14/3 -4.6667
-8/3 -2.6667
-6 -6.0000

d) $-2/3 + -3/2 =$
$-2/3 - -3/2 =$
$-2/3 \times -3/2 =$
$-2/3 \div -3/2 =$

d) ***-13/6 -2.1667***
5/6 0.8333
1 1.0000
4/9 0.4444

e) $5/12 + -10/3 =$
$5/12 - -10/3 =$
$5/12 \times -10/3 =$
$5/12 \div -10/3 =$

e) ***-35/12 -2.9167***
15/4 3.7500
-25/18 -1.3889
-1/8 -0.1250