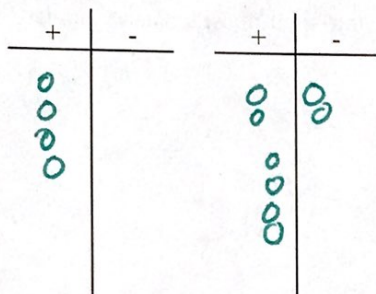


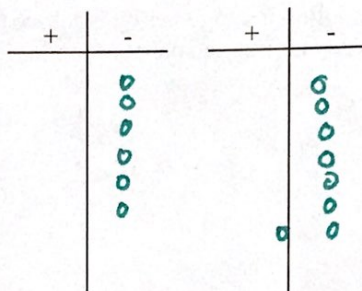
Try the following WITHOUT the use of a calculator or other technology.

1. Using an integer chip (two colour counters) diagram, illustrate the number given in TWO different ways using the ZERO Principle. (2 marks)

(a) positive four (4)



(b) negative six (-6)



2. Evaluate the following together by breaking the numbers up into their ones, tens and hundreds values first, and then summing the parts. (3 marks)

(a) $24 + 65$

$$= 20 + 4 + 60 + 5$$

$$= 80 + 9$$

$$= 89$$

(b) $122 + 237$

$$= 100 + 20 + 2 + 200$$

$$+ 30 + 7$$

$$= 300 + 50 + 9$$

$$= 359$$

(c) $236 + 348$

$$= 200 + 30 + 6 + 300 + 40 + 8$$

$$= 500 + 70 + 14$$

$$= 584$$

3. Evaluate the following (you may use the number line, your fingers, integer chips, etc. but NO calculator): (9 marks)

(a) $4 + 7$

$$= 11$$

(b) $12 + (-4)$

$$= 8$$

(c) $-9 + 15$

$$= 6$$

(d) $4 + 13 + 12$

$$= 29$$

(e) $19 + (-6) + 12$

$$= 25$$

(f) $(-2) + (-5) + (-11)$

$$= -18$$

(g) $46 + (-22)$

$$= 24$$

(f) $-9 + (-2)$

$$= -11$$

(g) $-14 + (-12) + 21$

$$= -5$$

4. Break the following negative numbers up into their ones, tens and hundreds values. (3 marks)

(a) -15

$$= -10 - 5$$

(b) -127

$$= -100 - 20 - 7$$

(c) -249

$$= -200 - 40 - 9$$

5. Evaluate the following together by breaking the numbers up into their ones, tens and hundreds values first, and then summing the parts. (3 marks)

(a) $18 - 5$

$$\begin{aligned} &= 10 + 8 - 5 \\ &= 10 + 3 \\ &= 13 \end{aligned}$$

(b) $88 - 23$

$$\begin{aligned} &= 80 + 8 - 20 - 3 \\ &= 60 + 5 \\ &= 65 \end{aligned}$$

(c) $-36 - 12$

$$\begin{aligned} &= -30 - 6 - 10 - 2 \\ &= -40 - 8 \\ &= -48 \end{aligned}$$

6. Evaluate the following (you may use the number line, your fingers, integer chips, etc. but NO calculator): (11 marks)

(a) $14 - 8$

$$= 6$$

(b) $12 - (+3)$

$$= 9$$

(c) $-9 - 5$

$$= -14$$

(d) $7 - 13 + (-2)$

$$= -8$$

(e) $9 + (-16)$

$$= -7$$

(f) $5 - (-1)$

$$= 6$$

(g) $6 - (-2)$

$$= 8$$

(h) $-8 - (-5)$

$$= -3$$

(i) $-14 - (-12)$

$$= -2$$

(j) $-4 - (-5) - (-2)$

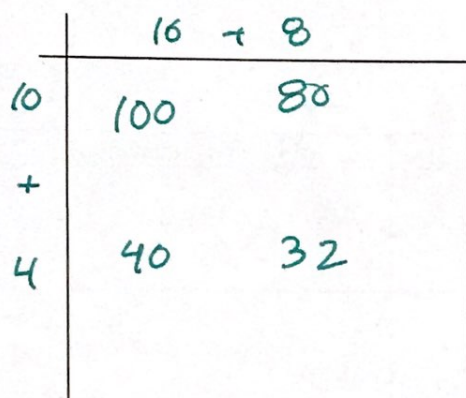
$$\begin{aligned} &= -4 + 5 + 2 \\ &= 3 \end{aligned}$$

(k) $-15 - (-17)$

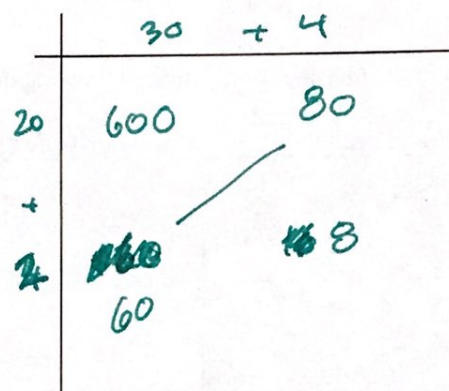
$$= 2$$

Use the Area Model to multiply the following:

1. (a) $14 \times 18 = 252$



(b) $22 \times 34 = \cancel{748} \text{ } 748$



2. What is another way of writing the following?

(a) $4 + 4 + 4 + 4 + 4 + 4$
 $= 6(4)$

(b) $(-3) + (-3) + (-3) + (-3)$
 $= 4(-3)$

3. Multiply the following, watch your signs.

(a) $(-3) \times (4)$
 $= -12$

(b) $(9) \times (-2)$
 $= -(18)$

(c) $(-2) \times (-4)$
 $= 8$

(d) $(-5) \times (-4)$
 $= 20$

(e) $(-11) \times (-3)$
 $= 33$

(f) $(-8) \times (7)$
 $= -56$

(g) $(-2) \times (-3) \times (-5)$
 $= -30$

(h) $(4) \times (8) \times (-2)$
 $= -64$

(i) 56×14
 $= 784$

(j) $\begin{array}{r} 124 \\ \times 15 \\ \hline 620 \\ + 1240 \\ \hline 1860 \end{array}$

$\begin{array}{r} 50 + 6 \\ 10 \overline{) 500 \ 60} \\ + \\ 4 \overline{) 200 \ 24} \end{array}$

Use the **Multiplication Table** to divide the following:

1. (a) $72 \div 8 = 9$ (b) $44 \div 4 = 11$ (c) $108 \div 12 = 9$

2. Fill in the missing forms for the following division formats:

Fraction Format	Long Division Format	With division symbol
$\frac{12}{3}$	$3 \overline{)12}$	$12 \div 3$
$\frac{20}{5}$	$5 \overline{)20}$	$20 \div 5$
$\frac{28}{4}$	$4 \overline{)28}$	$28 \div 4$
$\frac{36}{9}$	$9 \overline{)36}$	$36 \div 9$

3. Divide the following, watch your signs.

(a) $(16) \div (4)$
 $= 4$

(b) $(18) \div (-2)$
 $= -9$

(c) $(-24) \div (-4)$
 $= 6$

(d) $\frac{-30}{5}$
 $= -6$

(e) $\frac{-56}{7}$
 $= -8$

(f) $\frac{-120}{-20}$
 $= +6$

(g) $6 \overline{)48}$
 $= 8$

(h) $14 \overline{)42}$
 $\begin{array}{r} 3 \\ -28 \text{ (2)} \\ \hline 14 \\ -14 \text{ (1)} \\ \hline 0 \end{array}$

(i) $\frac{328}{17}$
 $= 19 \frac{5}{17}$

$17 \overline{)328}$
 $\begin{array}{r} 19 \\ \underline{17} \\ 158 \\ \underline{153} \\ 5 \end{array}$

Evaluate each of the following questions. Be careful to use order of operations properly (BEDMAS) and watch the integers (negative signs especially)! **No Calculators please!**

$$\begin{aligned} 1. \quad & (3+4) - (4+2) \\ & = 7 - 6 \\ & = 1 \end{aligned}$$

$$\begin{aligned} 2. \quad & 6^2 + 5 \\ & = 36 + 5 \\ & = 41 \end{aligned}$$

$$\begin{aligned} 3. \quad & (-11) \times (-5) \\ & = 55 \end{aligned}$$

$$\begin{aligned} 4. \quad & (-3)(4)(-5) \\ & = 60 \end{aligned}$$

$$\begin{aligned} 5. \quad & (5)(-9) \div (-3)(5) \\ & = (-45) \div (-15) \\ & = 3 \\ \text{OR} \quad & \frac{(5)(3)(5)}{15} \\ & = 75 \end{aligned}$$

$$\begin{aligned} 6. \quad & -12 \div (-3) + (-3) \\ & = 4 + (-3) \\ & = 1 \end{aligned}$$

$$\begin{aligned} 7. \quad & (-5)^2 - (-7) + (-12) \\ & = 25 + 7 - 12 \\ & = 20 \end{aligned}$$

$$\begin{aligned} 8. \quad & -4 + 20 \div (-4) \\ & = -4 + (-5) \\ & = -9 \end{aligned}$$

$$\begin{aligned} 9. \quad & -3(-4) + 8^2 \\ & = 12 + 64 \\ & = 76 \end{aligned}$$

$$\begin{aligned} 10. \quad & (-16) - (-8 \div 2) \\ & = (-16) - (-4) \\ & = -12 \end{aligned}$$

$$\begin{aligned} 11. \quad & 8 \div (-4) + 4 \div (-2)^2 \\ & = (-2) + (1) \\ & = -1 \end{aligned}$$

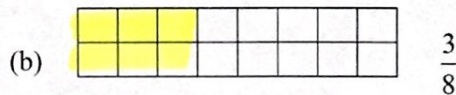
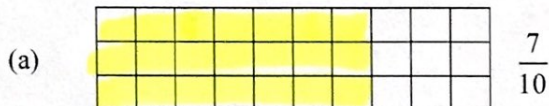
$$\begin{aligned} 12. \quad & -12 \div (-6) + (-3)(-4) \\ & = 2 + (12) \\ & = 14 \end{aligned}$$

$$\begin{aligned} 13. \quad & \frac{(5+7)^2}{(6)(4)} \\ & = \frac{144}{24} \\ & = 6 \end{aligned}$$

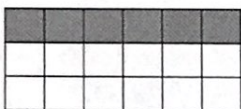
$$\begin{aligned} 14. \quad & \frac{(9-(-3))}{\sqrt{36}} \\ & = \frac{12}{6} \\ & = 2 \end{aligned}$$

$$\begin{aligned} 15. \quad & (9 - 15)(6 - 2(3)) \\ & = (-6)(6 - 6) \\ & = (-6)(0) \\ & = 0 \end{aligned}$$

1. In the following grid, shade in the given fraction amount. (2 marks)



2. The following diagrams represent what fractions? (4 marks)



$$\frac{1}{3} \text{ or } \frac{6}{18}$$



$$\frac{7}{8} \text{ or } \frac{28}{32}$$

3. Write **TWO** equivalent fractions **for each** of the following: (6 marks)

(a) $\frac{1}{2} = \frac{3}{6} \text{ or } \frac{4}{8}$

(b) $\frac{3}{4} = \frac{6}{8} \text{ or } \frac{9}{12}$

(c) $\frac{15}{25} = \frac{30}{50} = \frac{60}{100}$

4. Write the following fractions in **LOWEST TERMS**. (K - 4 marks)

(a) $\frac{8}{10} = \frac{4}{5}$

(b) $\frac{55}{100} = \frac{11}{20}$

(c) $\frac{6}{18} = \frac{1}{3}$

(d) $\frac{9}{15} = \frac{3}{5}$

5. Place the following fractions in order of greatest to smallest: $\frac{5}{8}, \frac{1}{2}, \frac{3}{4}, \frac{9}{16}$ (App - 2 marks)

$$\frac{3}{4}, \frac{5}{8}, \frac{9}{16}, \frac{1}{2}$$

$$\frac{10}{16}, \frac{8}{16}, \frac{12}{16}, \frac{9}{16}$$

Be sure to reduce fractions to **lowest terms**. No calculators please!

1. Evaluate the following (show your work for full marks)

$$(a) \quad \frac{1}{5} + \frac{2}{5}$$

$$= \frac{3}{5}$$

$$(b) \quad \frac{1}{2} + \frac{3}{4}$$

$$= \frac{2}{4} + \frac{3}{4}$$

$$= \frac{5}{4} \text{ or } 1\frac{1}{4}$$

$$(c) \quad \frac{7}{8} + \frac{3}{4} + \frac{1}{16}$$

$$= \frac{14}{16} + \frac{12}{16} + \frac{1}{16}$$

$$= \frac{27}{16} \text{ or } 1\frac{11}{16}$$

$$(d) \quad 5\frac{1}{4} + 2\frac{1}{5}$$

$$= 7 + \frac{5}{20} + \frac{4}{20}$$

$$= 7\frac{9}{20} \text{ or } \frac{149}{20}$$

$$(e) \quad \frac{7}{8} - \frac{1}{4}$$

$$= \frac{7}{8} - \frac{2}{8}$$

$$= \frac{5}{8}$$

$$(f) \quad 3\frac{1}{4} - \frac{7}{8}$$

$$= \frac{13}{4} - \frac{7}{8}$$

$$= \frac{26}{8} - \frac{7}{8}$$

$$= \frac{19}{8} \text{ or } 2\frac{3}{8}$$

$$(g) \quad 5\frac{1}{2} - 3\frac{2}{5}$$

$$= \frac{11}{2} - \frac{17}{5}$$

$$= \frac{55}{10} - \frac{34}{10}$$

$$= \frac{21}{10} \text{ or } 2\frac{1}{10}$$

$$(h) \quad 3\frac{1}{8} - \frac{3}{4} + 1\frac{5}{8}$$

$$= \frac{25}{8} - \frac{6}{8} + \frac{13}{8}$$

$$= \frac{32}{8}$$

$$= 4$$