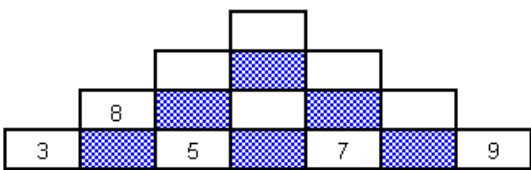
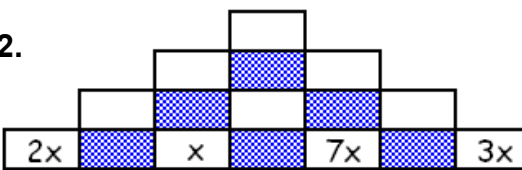
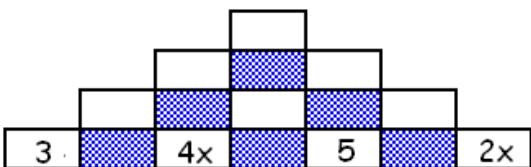


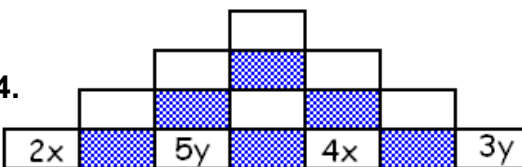
Task A: Algebra Towers

Fill in the missing numbers and expressions in the towers below. To work out a missing square, you must add the two numbers or expressions below it.

1. 

2. 

3. 

4. 

Task B: Magic Squares

Each row, column and diagonal should add up to the same total.

1.

| | | |
|----------------|---------|---------|
| | $9X+3Y$ | $4X+8Y$ |
| | | $3X+Y$ |
| | | $8X+6Y$ |
| Total = | | |

2.

| | | |
|------------------|------|--|
| $-6Z$ | $8Z$ | |
| $4Z$ | | |
| | | |
| Total = 0 | | |

Task C: Substitution

1) By substituting the letters for numbers, work out the value of the expressions below.

| | | | | | | | |
|------------|------------|------------|------------|------------|-------------|-------------|--------------|
| A=1 | B=2 | C=3 | D=5 | E=7 | F=10 | G=24 | H=100 |
|------------|------------|------------|------------|------------|-------------|-------------|--------------|

- | | | | |
|----------------|-----------------|--------------------------|--------------------------|
| a) $A + B$ | e) $B \times D$ | i) $G \div B$ | m) $C \times D - E$ |
| b) $F - E$ | f) $F \times E$ | j) $H \div F$ | n) $H - G + E$ |
| c) $B + C + D$ | g) $G \times H$ | k) $B \times C \times D$ | o) $C \times F \div D$ |
| d) $H - G$ | h) $F \div B$ | l) $F \times G + H$ | p) $E \times C \times D$ |

Extension Question:

Use the values from the last task to work out the value of the expressions below.

- | | | | |
|----------|---------------|---------------|----------|
| a) D^2 | b) $D(B + C)$ | c) $E \div F$ | d) B^C |
|----------|---------------|---------------|----------|