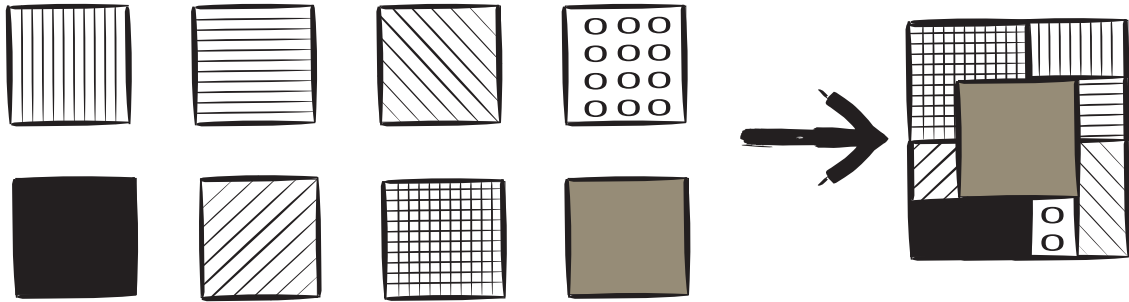


Year 9 - Worksheet 6

PUZZLE

Eight same sized squares (pictured below) are layered on top of each other. Determine the order which they are placed with the square 8 placed last.



EQUATION SOLVING

Solve the following equations:

1. $2(x + 1) = 14$

2. $2(x - 1) = 16$

3. $3(x - 3) = 15$

4. $4(x - 2) = -8$

5. $2x + 1 = 4x + 3$

6. $5(x + 2) = 2x + 1$

7. $2(x - 3) = 3(x - 1)$

8. $2(x - 3) = 2(x - 3)$

9. $2(x - 3) = 2(x + 3)$

10. $3(x + 2) + 1 = 7$

FACTORISING

Factorise the following expressions.

- $2x + 2y$ _____
- $ax + ay$ _____
- $4x - 4y$ _____
- $5x + 5y + 5t$ _____
- $3x + 3y$ _____
- $2x + 4y$ _____
- $8x + 10y$ _____
- $6x + 15y$ _____
- $11x - 22y$ _____
- $15x - 40y$ _____

MORE FACTORISING

Factorise the following expressions.

- $5a + 5b$ _____
- $5a + 5b + 5c$ _____
- $3x + 18$ _____
- $8x - 32$ _____
- $10x - 25$ _____
- $39x + 26$ _____
- $xy + yr$ _____
- $7x - 7y$ _____
- $ax + ay + a^2$ _____
- $8x - x^2$ _____

QUICK QUESTIONS

- Simplify $x^2 \times x^4 \times x^3$ _____
- Simplify $5x^2 \times 3x^7$ _____
- Simplify $\frac{10x^7}{4x^3}$ _____
- Solve $4x = 24$ _____
- Solve $x + 3 = 11$ _____
- Solve $\frac{x}{3} = 8$ _____
- $x - 11 = 2$ _____
- Solve $3x + 4 = 6$

- Solve $5x - 2 = 3x + 4$

- Solve $5x + 1 = -3$

SUDOKU

7				2	1		3
2						4	7
	5			1	4	8	9
				4	9	2	
8		6				3	9
		1	6	3			
	9	2	8	6			5
3	7						1
4		5	2				8

TEN QUICK QUESTIONS

1. Simplify $4a \times 2a \times 3a$ _____

2. Simplify $4x^2 \times 3x^4$ _____

3. Simplify $3a - 2b + a + 3b$ _____

4. Solve $2x + 1 = 7$

5. Solve $\frac{x}{3} - 1 = 2$

6. Solve $3x + 2 = -10$

7. Solve $3x - 1 = x + 9$

8. Solve $-2x + 3 = 11$

9. Expand $3(x + 2)$

10. Expand and simplify $4(2x + 3) + 2(x - 1)$

SKILLS

Solve these equations:

1. $2(x + 3) = 8$

6. $2(x - 2) = 5$

2. $5(x - 2) = 2(x + 1)$

7. $3(x + 1) = 1$

3. $2(x - 1) = -12$

8. $3x + (x + 1) = 5$

4. $3(x - 1) = x$

9. $2x - (x - 2) = 3$

5. $5x - 1 = 2(x + 4)$

10. $x + 2(x - 5) = 6$

ALGEBRA

Complete the chart given the different values of x and y.

x	y	$x^2 + y$	x^2y	$2x^2 + y$	$3x - y^2$
3	2				
4	5				
-3	1				
8	3				