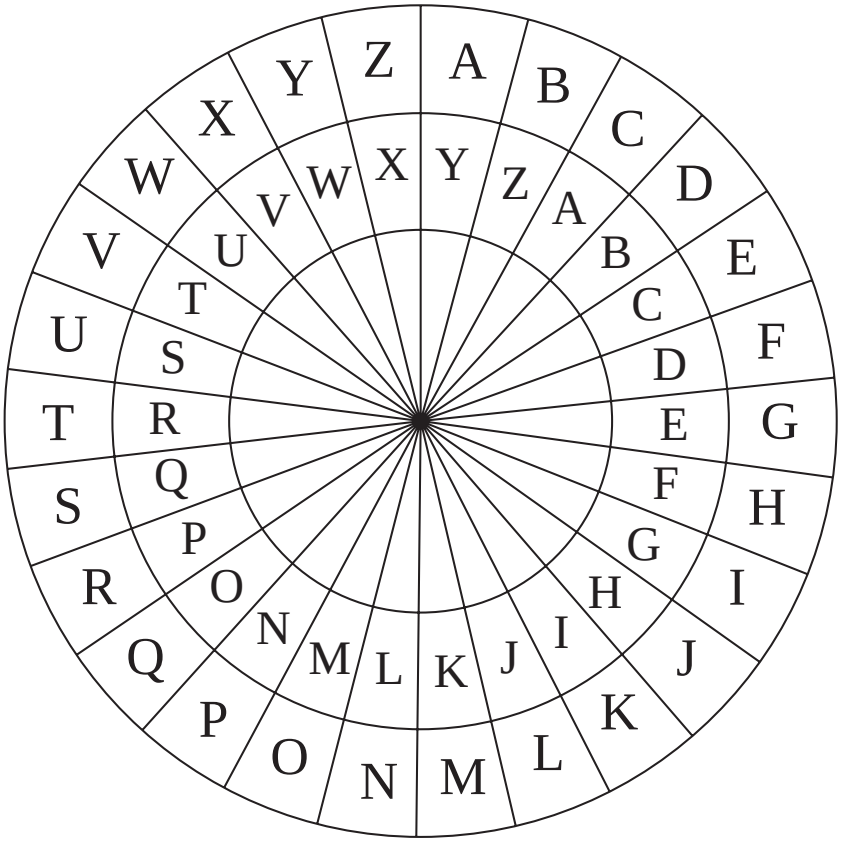
UNIT 16 *Algebra: Linear Equations* Overhead Slides

Overhead Slides

OS 16.1 *Codewheel*



Decode these messages:

H S K N M L Y Z S Q

E M D M P E M J B

OS 16.2 *Simplification*

Simplify these expressions:

1. $4x + 6x$

2. $3y + 2y + 5y - 6y$

3. $4p + 2q - 2p + 4q$

4. $5x + 8x - 4x$

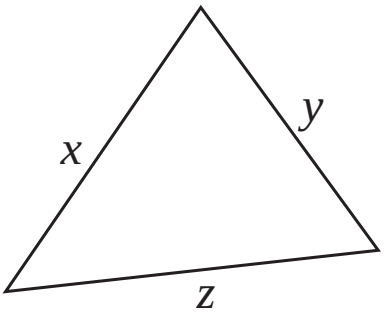
5. $6x + 2y + 8x - 5y$

6. $3x + 8 + 4x - 5$

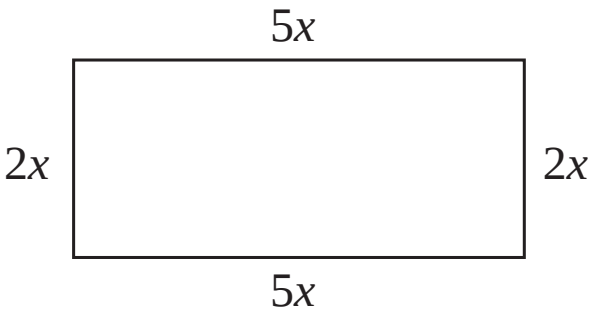
OS 16.3 *Formulae*

Write down a formula for the perimeter of each of these shapes, and simplify where possible:

1.



2.



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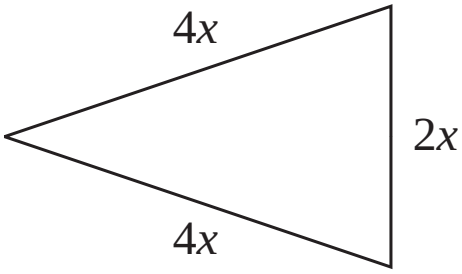

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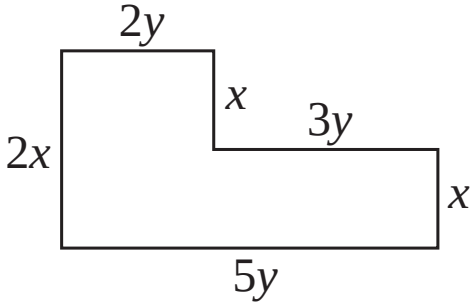


OS 16.4 *Function Machines*

1. What is the *output* of each of these function machines:

(a) 4 → [+ 7] → [× 5] →

(b) 5 → [− 9] → [× 8] →

(c) 6 → [÷ 3] → [+ 9] →

(d) − 4 → [× 3] → [+ 10] →

2. What is the *input* of each of these function machines:

(a) ? → [+ 2] → [× 3] → 21

? ← [ ] ← [ ] ← 21

(b) ? → [− 10] → [÷ 3] → 4

? ← [ ] ← [ ] ← 4

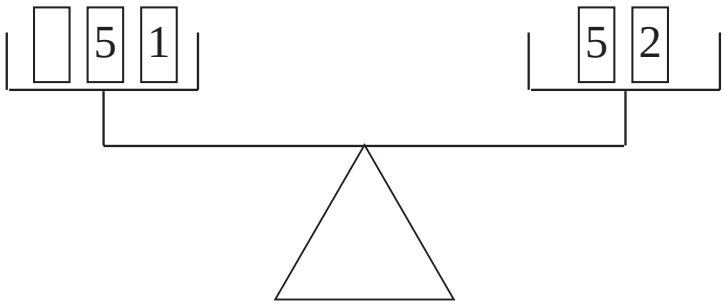
(c) ? → [+ 5] → [× 2] → − 2

? ← [ ] ← [ ] ← − 2

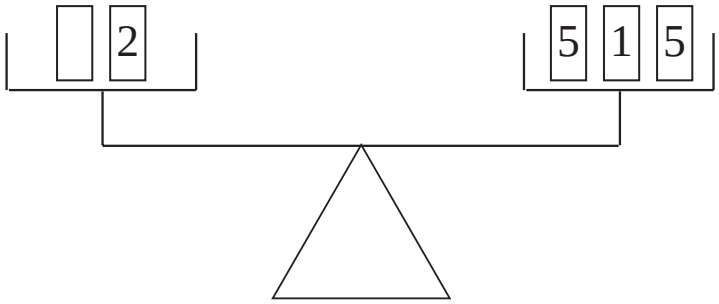
OS 16.5 *Balancing Equations*

Calculate the unknown weight in each diagram below:

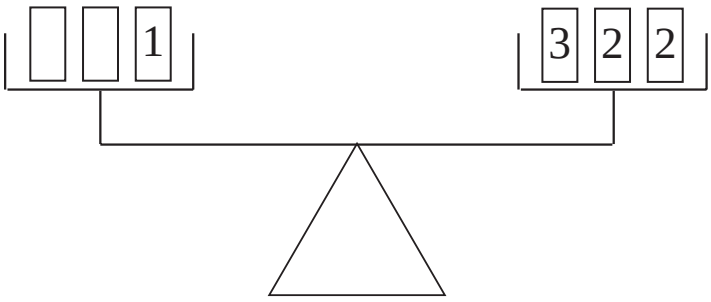
(a)



(b)

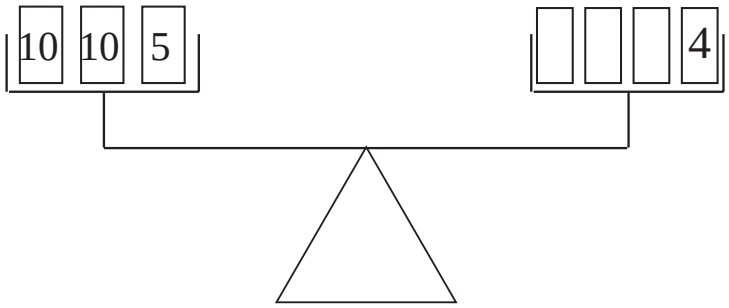


(c)



(Both unmarked weights are the same.)

(d)



(All unmarked weights are the same.)

OS 16.6 *Solving Equations 1*

Solve these equations:

1. $x + 6 = 10$

2. $x - 4 = 3$

3. $2x + 1 = 9$

4. $5x - 1 = 44$

5. $13 + 2x = 19$

OS 16.7 *Solving Equations 2*

Solve these equations:

1. $16 - 3x = 10$

2. $12 = 10 - 4x$

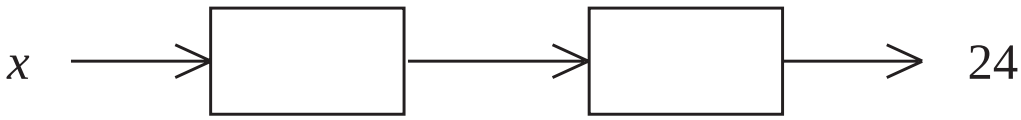
3. $x + 6 = 2x - 4$

4. $5x + 1 = 6x - 11$

OS 16.8 *Think of a Number*

1. Think of a number.
2. Add 7 to this number.
3. Double the result.

If x was the first number and the final answer is 24, complete this flow chart:



What was the original number, x ?

If Alex's final answer is 30, what number did he start with?

If Sue's final answer is 36, what number did she start with?