



ASPIRE

Aspire International School

Mid-Term Exam 2023-2024

Subject: Math	Year: 8	Duration: 80 minutes
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Name	
Date	

For teacher use only

Page	Mark	Checker
2	/7	
3	/4	
4	/8	
5	/9	
6	/6	
7	/6	
Total marks	40	

Instructions:

- 1- Read & answer **all** questions carefully.
- 2- Use a blue or black pen to answer **only**.
- 3- All diagrams should be drawn using a pencil **only**.
- 4- Correction fluid is **not** allowed.

Total number of pages: 7



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1) Expand and simplify:

a) $(x + 4)(x + 7)$

[4]

.....

b) $(x + 8)(x - 9)$

.....

c) $(4x + 1)(3x - 5)$

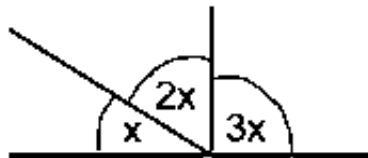
.....

d) $(2x + 5)^2$

.....

2) I) Three angles made up a straight line

[3]



a) Form an equation in x

.....

b) Solve the equation for x

x =

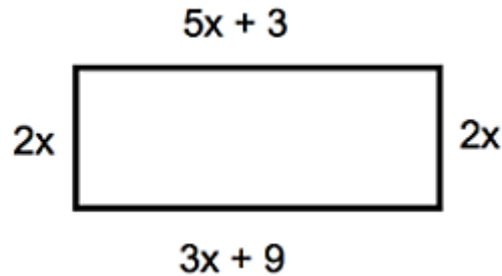
II) Rewrite $16 = 4x + 8y$. Make y the subject

.....



3) The diagram shows a rectangle, the sides are measured in cm.

[2]



a) Write an expression for the perimeter of the rectangle.

P =

b) If $x = 2$ cm, find the perimeter of the rectangle.

P = cm

4) Anas is x years old, Lili is 3 year younger than Anas.

Saif is twice as old as Anas.

[2]

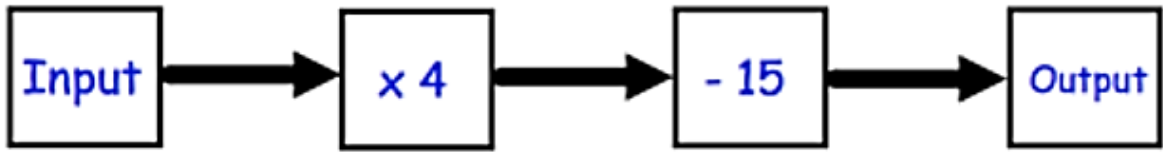
a) Write an expression for Lili's age.

b) Write an expression for the sum of the three ages.

.....



5)



a) Work out the output if the input is 12

[2]

.....

b) Write an expression of the output if the input is y

.....

6) Simplify:

a) $\frac{m^9 \times m}{m^5}$

[6]

.....

b) $w^3 \times w^{-5}$

.....

c) $a^4 \div a^{-2}$

.....

d) $(2m^4)^3$

.....

e) $2a^3c^3 \times 3a^2c$

.....

f) $\frac{10m^5n^4}{2m^2n}$

.....



7) a) Solve and simplify $\frac{v+3}{2} + \frac{2v+1}{5}$ [3]

.....

b) If $x = 6$ and $y = -2$, find the value of :

i) $y + x^2$

ii) $\frac{y+20}{x}$

8) a) Write in standard form 35000 [4]

.....

b) Write as an ordinary number 1.2×10^3

c) Write as an ordinary number 4.7×10^{-2}

d) Write in standard form 0.0000549

9) Write these numbers in order of size, smallest to largest.

2.04×10^3 250 0.3×10^3 4×10^{-2} [2]

.....



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10) Solve the equations:

[3]

a) $6(y - 7) = 30$

$y = \dots\dots\dots$

b) $15 = 40 - 5y$

$y = \dots\dots\dots$

c) $5(x + 5) + 3(x - 2) = 3$

$x = \dots\dots\dots$

11) A whole number is rounded to the nearest 10, the answer is 80.

a) List the integer values the number could be.

[3]

.....

b) What is the lower bound?

.....

c) What is the upper bound?

.....



12) The rectangular cards show percentage increases and decreases.
The oval cards show multipliers.

[5]

Match each rectangular card with the correct oval card.

The first one has been done for you: A and vi.

A - increase by 10%

B increase by 40%

C decrease by 25%

D decrease by 5%

E increase by 4%

F decrease by 62%

i 0.75

ii 1.04

iii 1.4

iv 0.95

v 0.38

vi 1.1

B →

C →

D →

E →

F →

13) 30% increase then 25% decrease, work out the multiplier of this compound percentage.

[1]

.....