Year 7 Class 15 questions

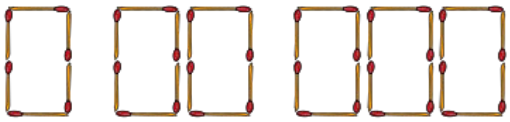
Q1

Describe the pattern : 81, 93, 105, 117, 129

The pattern is _____ by ____

increasing decreasing

Q2



Complete the table.

No. of shapes	1	2	3
No. of matches	6		

Q3

Choose the algebraic expression for

d* divided by *a

○ $\frac{a}{d}$ ○ $\frac{d}{a}$ ○ $a-d$ ○ $a+d$

Q4

If $x = 11$, then find the value of $6x+1$.

Q5

If m = 5 and n = 3, find the value of $100m+10n$.

Q6

Describe the pattern : 28, 58, 88, 118, 148

The pattern is _____ by ____

increasing decreasing

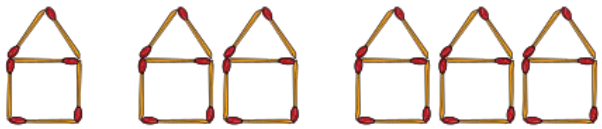
Q7

Describe the pattern : 92, 78, 64, 50, 36

The pattern is _____ by ____

increasing decreasing

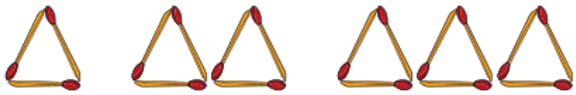
Q8



Complete the table.

No. of houses	1	2	3	4	
No. of matches					36

Q9



Complete the table.

No. of triangles	1	2	3	10	
No. of matches					36

Q10

Choose the algebraic expression for

6 more than the product of *m* and *y*

○ $6+m+y$ ○ $6(m+y)$

○ $6my$ ○ $6+my$

Q11

Choose the algebraic expression for

the square root of *b*

○ b^2 ○ $\frac{b}{2}$ ○ $\sqrt{b}$ ○ $2b$

Q12

If $a = 3$, find the value of $2a^2$.

Q13

If $a = 3$, find the value of $2a^2 - 10$.

Q14

If $m = 5$ and $n = 3$, find the value of $8m - n^2$.

Q15

If $a = 6$ and $b = -8$, find the value of $\frac{4a}{3b}$.

Q16

Describe the pattern : 764, 899, 1034, 1169, 1304

The pattern is _____ by _____

increasing decreasing

Q17

Describe the pattern : 1763, 1601, 1439, 1277, 1115

The pattern is _____ by _____

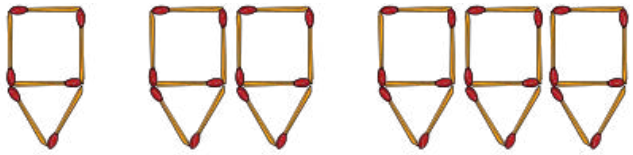
increasing decreasing

Q18

Which pattern is increasing by 36?

- ○ 4, 40, 78, 118, 160
- ○ 19, 55, 108, 214, 306
- ○ 22, 58, 94, 130, 166
- ○ 35, 71, 143, 285, 569

Q19

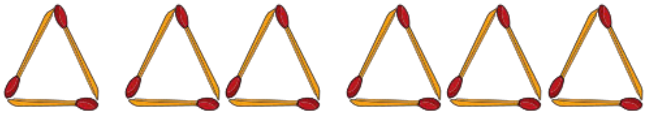


No. of matches = No. of shapes _____

× 4 × 5 × 6 × 7

Q20

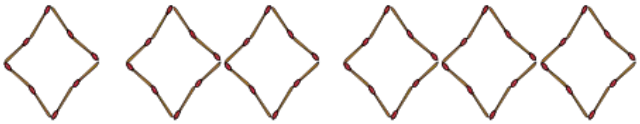
How many matchsticks are needed to make 12 triangles in this pattern?



No. of matchsticks = _____

Q21

How many matchsticks are needed to make 10 stars in this pattern?



No. of matchsticks = _____

Q22

Choose the algebraic expression for

add c and 5, then divide the result by 2

○ $\frac{c-5}{2}$ ○ $\frac{c+5}{2}$ ○ $c-5$ ○ $5-c$

Q23

Choose the algebraic expression for **the total cost in cents of *m* apples at *x* cents each, *p* oranges at *y* cents each, and *q* mangoes at *r* dollars each**

- ○ $\$(mx+yp+qr)$
- ○ $(mx+py+10qr)$ cents
- ○ $(100mx+py+100qr)$ cents
- ○ $(mx+py+100qr)$ cents

Q24

Write the algebraic expression for multiply x by 2 then add 5.

Q25

If $a = 3$, find the value of $6+5a-2$.

Q26

If $n = 5$, then find the value of n^2+2n.

Q27

If $s = 3$, then find the value of $5s-s^2+2$.

Q28

If m = 5 and n = 3, find the value of $\frac{m^2-5}{mn+5}$.

Q29

If $a = 0.4$, $b = -0.5$ and $c = -3$, find the value of $\frac{5a+4b}{c}$.

Q30

If $a = 5$ and $b = 6$, find the value of $\sqrt{(2a+b)}$.