

Year 8 Class 14 questions

Q1

Expand and simplify $8m - (1 - 2m)$.

- $10m$
- $m + 10$
- $10m - 1$
- $10m - 3$

Q2

Expand and simplify $4m + 3n - (2m + n)$.

- $8m - 4n$
- $2m + 2n$
- $6m + 3n$
- $6mn - 2$

Q3

Expand and simplify $5 + 2(m - 3)$.

- $2m + 2$
- $2m - 1$
- $2m + 11$

Q4

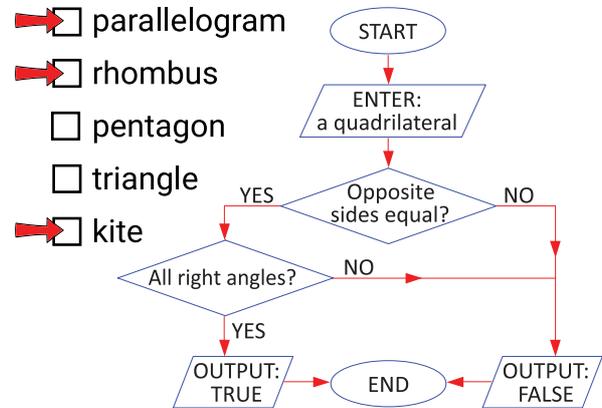
Expand and simplify:

$$6x^2 + x(y - 2x) = 6x^2 + \boxed{}_{xy} - \boxed{}_2 x^2$$

$$= \boxed{}_4 x^2 + \boxed{}_{xy}$$

Q5

Choose the shapes which could be successfully *ENTERED*.



Which shapes would return a *YES* for the first question?

- trapezium
- rectangle
- rhombus
- square
- kite

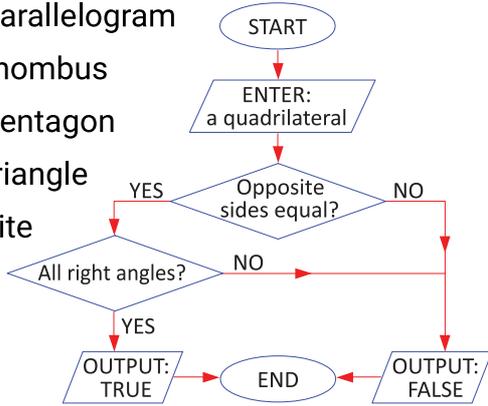
Choose the shapes which would return a *TRUE* output.

- trapezium
- rectangle
- rhombus
- square
- kite

Q6

Choose the shapes which could be successfully *ENTERED*.

- parallelogram
 rhombus
 pentagon
 triangle
 kite



Which shapes would return a *NO* for the first question?

- trapezium
 rectangle
 rhombus
 square
 kite

Choose the shapes which would return a *FALSE* output.

- trapezium
 rectangle
 rhombus
 square
 kite

Q7

If $v = u + gt$, calculate t when $v = 48$, $u = 39$, $g = 9$.

$t =$ 1

Q8

Given that $A = \pi r^2$, find r (to 1 d.p.) when $A = 128$. (r is positive)

$r =$ 6.4

Q9

Expand and simplify $7m - (4m - n)$.

- $3m - n$
 $m + 11$
 $3m + n$
 $3m - 2$

Q10

Expand and simplify $8(m - 3) + 3(2m + 4)$.

- $14m - 12$
 $10m - 16$
 $14m - 20$
 $14m + 36$

Q11

Expand and simplify $6(a + 2b) + a(3 + 2b)$.

- $2a^2 + 12b + 9$
 $9a - 2b + 12ab$
 $9a + 12b + 2ab$
 $12a^2 - 9b + 2$

Q12

Expand and simplify $m(m + n) - n(2m - n)$.

- $m^2 - n^2 - mn$
 $m^2 - mn + n^2$
 $m^2 + mn + n^2$

Q13

Expand and simplify:

$$\begin{aligned}
 4(3x + 1) - x(3x + 1) &= \boxed{12}x + 4 - \boxed{3}x^2 - x \\
 &= \boxed{11}x - \boxed{3}x^2 + 4
 \end{aligned}$$

Q14

Expand and simplify:

$$2a(a+b) - b(2a+b) = \frac{\square}{2}a^2 + \frac{\square}{2}ab - \frac{\square}{2}ab - b^2$$
$$= \frac{\square}{2}a^2 - b^2$$

Q15

Choose the shapes which could be successfully *ENTERED*.

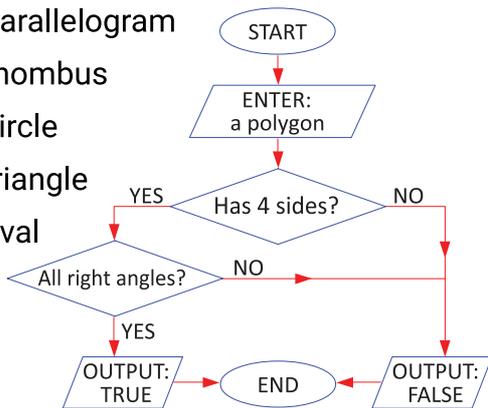
parallelogram

rhombus

circle

triangle

oval



Which shapes would return a *NO* for the first question?

trapezium

triangle

rhombus

pentagon

hexagon

Choose the shapes which would return a *TRUE* output.

trapezium

rectangle

rhombus

square

kite

Q16

Choose the shapes which could be successfully *ENTERED*.

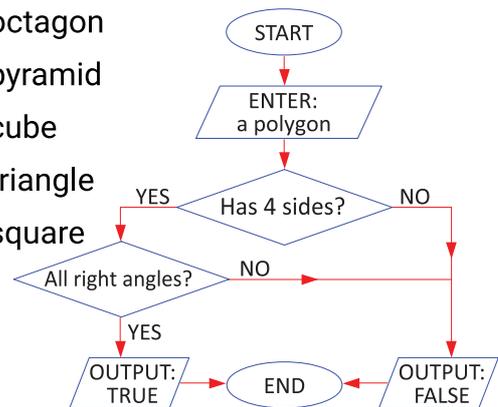
octagon

pyramid

cube

triangle

square



Which shapes would return a *YES* for the first question?

trapezium

hexagon

rhombus

pentagon

kite

Choose the shapes which would return a *FALSE* output.

trapezium

rectangle

rhombus

hexagon

kite

Q17

$E = \frac{1}{2}mv^2$. Calculate the positive value of v when $E = 90$, $m = 5$.

$v =$

Q18

Given $C = \frac{E}{R}$, calculate E when $C = 15$, $R = 3$.

$E =$

Q19

Given $C = \frac{E}{R}$, calculate E when $C = -5$, $R = 7$.

$$E = \boxed{} \quad \boxed{-35}$$

Q20

Expand and simplify $10(4+4f) - 7(5f+2)$.

- $26f$
 $26 - 5f$
 $5f + 26$
 $5f - 25$

Q21

Expand and simplify $4(3-2j) + 5(3j-2)$.

- $7j + 2$
 $2j + 7j$
 $7j - 2j$
 $j - 7j$

Q22

Expand and simplify $x(3-2x) - (6x^2+4x)$.

- $-8x^2 - x$
 $-12x^2$
 $8x - 4x$
 $8x^2 + x$

Q23

Expand and simplify $2m(m+5) - 5(2m+5)$.

- $2m^2 - 25$
 $2m^2 - 10$
 $2m^2 + 25$

Q24

Expand and simplify:

$$\begin{aligned}
 2a(a+b) + b(2a-b) &= \boxed{} a^2 + \boxed{} ab + \boxed{} ab - b^2 \\
 &= \boxed{} a^2 + \boxed{} ab - b^2
 \end{aligned}$$

Q25

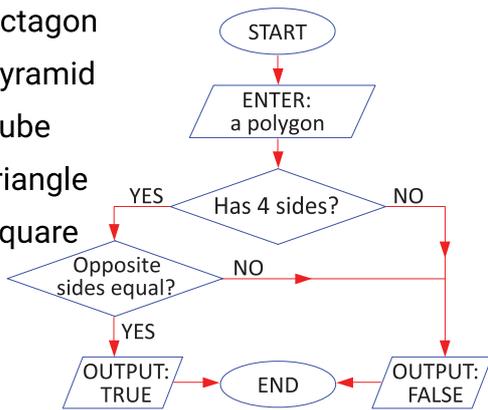
Expand and simplify:

$$\begin{aligned}
 3x(3x+y) - y(3x+y) &= \boxed{} x^2 + \boxed{} xy - \boxed{} xy - y^2 \\
 &= \boxed{} x^2 - y^2
 \end{aligned}$$

Q26

Choose the shapes which could be successfully *ENTERED*.

- octagon
- pyramid
- cube
- triangle
- square



Which shapes would return a *YES* for the first question?

- square
- hexagon
- rhombus
- pentagon
- kite

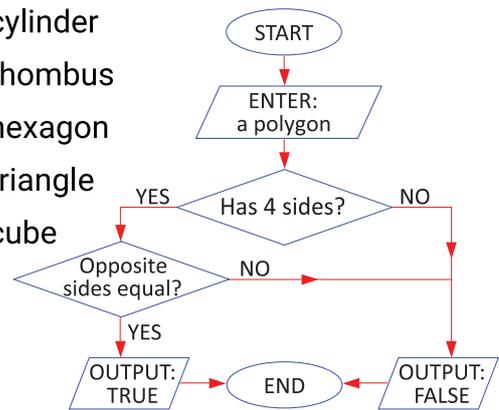
Choose the shapes which would return a *FALSE* output.

- triangle
- rectangle
- rhombus
- hexagon
- kite

Q27

Choose the shapes which could be successfully *ENTERED*.

- cylinder
- rhombus
- hexagon
- triangle
- cube



Which shapes would return a *YES* for the first question?

- triangle
- hexagon
- rhombus
- pentagon
- kite

Choose the shapes which would return a *TRUE* output.

- trapezium
- rectangle
- rhombus
- hexagon
- square

Q28

If $C = \sqrt{a^2 + b^2}$, find the value of a when $C = 10$, $b = 6$. (a is positive)

$a =$

Q29

If $C = \sqrt{a^2 + b^2}$, find the value of b when $C = 97$, $a = 72$. (b is positive)

$b =$

Q30

$W = \frac{1}{2}m(v^2 - u^2)$. Find v when $W = 1056$,
 $m = 12$, $u = 7$. (v is positive)

$v =$ 15
