

ULANGKAJI TINGKATAN 5**BAB 1 : UBAHAN****(12 soalan: Isi dalam bulatan)**

NAMA GURU:

SUBJEK: MATEMATIK

NAMA PELAJAR:

KELAS:

SOALAN 1

Diberi r berubah secara langsung dengan s^2 dan f , dan $r = 336$ apabila $s = 4$ dan $f = 7$.

Ungkapkan r dalam sebutan s dan f .

Given that r varies directly as s^2 and f , and $r = 336$ when $s = 4$ and $f = 7$. Express r in terms of s and f .

- A $r = s^2 f$ C $3s^2 f$
 B $r = 2s^2 f$ D $r = \frac{3r}{f^2}$

SOALAN 2

Diberi bahawa p berubah secara langsung dengan kuasa tiga m dan $p = 4$ apabila $m = 2$.

Hitung nilai m apabila $p = \frac{4}{27}$

Given that p varies directly as the cube of m and $p = 4$ when $m = 2$. Calculate the value of m when $p = \frac{2}{7}$

- A 8 C $\frac{2}{3}$
 B 3 D $\frac{3}{8}$

SOALAN 3

Jadual berikut menunjukkan beberapa nilai bagi pemboleh ubah, x dan y .

The following table shows some values of the variables, x and y .

x	8	m
y	16	36

Diberi bahawa y berubah secara langsung dengan kuasa dua x . Hitung nilai m .

It is given that y varies directly as the square of x . Calculate the value of m .

- A 8 C 16
 B 12 D 20

SOALAN 4

Diberi bahawa P berubah secara langsung dengan Q dan $P = 32$ apabila $Q = 8$.

Ungkapkan P dalam sebutan Q .

Given that P varies directly as Q and $P = 32$ when $Q = 8$. Express P in terms of Q .

- A $P = \frac{1}{256}Q$ C $P = \frac{1}{4}Q$
 B $P = 256Q$ D $P = 4Q$

SOALAN 5

Isi padu sebuah mangkuk, $V \text{ cm}^3$ berubah secara langsung dengan kuasa tiga jejari, r . Dengan menggunakan k sebagai pemalar, ungkapkan k dalam sebutan V dan r .

The volume of a bowl, $V \text{ cm}^3$, varies directly as the cube of its radius, r . By using k as a constant, express

k in terms of V and r .

- A $k = V$ C $k = V$
 B $k = Vr^2$ D $k = Vr^3$

SOALAN 6

Jadual manakah yang mewakili hubungan

$$y \propto x^{\frac{1}{2}}?$$

Which table represents the relation of

$$y \propto x^{\frac{1}{2}}?$$

A

x	1	4	16	64
y	1	2	4	12

B

x	1	4	16	64
y	1	2	8	32

C

x	1	4	16	64
y	3	6	12	24

D

x	1	4	16	64
y	1	12	48	192

SOALAN 7

Hubungan antara pemboleh ubah, a , b dan c

ialah $\frac{1}{a} \propto \frac{b}{c}$. Diberi bahawa $a = \frac{1}{4}$ apabila

$b = 8$ dan $c = 16$. Hitung nilai bagi a apabila $b = 6$ dan $c = 16$.

The relation between the variables, a , b and c

is $\frac{1}{a} \propto \frac{b}{c}$. Given that $a = \frac{1}{4}$ when $b = 8$ and

$c = 16$. Calculate the value of a when $b = 6$ and $c = 16$.

A 3 C $\frac{1}{3}$

B 4 D $\frac{1}{8}$

SOALAN 8

Jadual berikut menunjukkan beberapa nilai bagi pemboleh ubah, P dan Q.

The following table shows some values of the variables, P and Q.

P	87	42
Q	x	14

Diberi bahawa P berubah secara langsung dengan 2Q. Cari nilai x.

Given that P varies directly as 2Q.

Find the value of x.

A 21 C 48

B 29 D 54

SOALAN 9

E berubah secara songsang dengan punca kuasa tiga F. Diberi k ialah pemalar, cari hubungan antara E dan F.

E varies inversely as the cube root of F. Given that k is a constant, find the relation between E and F.

A $E = kF^{\frac{1}{3}}$ C $E = kF^3$

B $E = \frac{k}{F^{\frac{1}{3}}}$ D $E = \frac{k}{F^3}$

SOALAN 10

Jadual berikut menunjukkan beberapa nilai bagi pemboleh ubah, p dan q dengan keadaan q berubah secara songsang dengan punca kuasa dua p .

The following table shows some values for variables, p and q such that q varies inversely as the square root of p .

p	9	36
q	12	6

Cari hubungan antara p dan q .

Find the relation between p and q .

- A $q = 4\sqrt{p}$ C $q = \frac{4}{27}p^2$
B $q = \frac{36}{\sqrt{p}}$ D $q = \frac{972}{p^2}$

SOALAN 11

Diberi bahawa $P \propto \frac{r^h}{s^k}$ dan P berubah secara langsung dengan punca kuasa tiga r dan secara songsang dengan kuasa dua s . Nyatakan nilai h dan nilai k .

Given that $P \propto \frac{r^h}{s^k}$ and P varies directly as the cube root of r and inversely as the square of s . State the values of h and k .

- A $h = \frac{1}{3}, k = 2$ C $h = 3, k = 2$
B $h = \frac{1}{3}, k = -2$ D $h = 3, k = -2$

SOALAN 12

Hubungan antara T , U dan V ialah $T \propto \frac{\sqrt{U}}{V^3}$

Diberi bahawa $T = 4$ apabila $U = 144$ dan $V = 3$.
Hitung nilai T apabila $U = 100$ dan $V = 5$.

The relation between T , U and V is $T \propto \frac{\sqrt{U}}{V^3}$. Given that $T = 4$ when $U = 144$ and $V = 3$. Calculate the value of T when $U = 100$ and $V = 5$.

- A $\frac{16}{85}$ C $\frac{25}{16}$
B $\frac{18}{25}$ D $\frac{25}{18}$