Bab 1, T5 : UBAHAN_Kertas 1

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1. P varies directly as the cube root of Q.
The relationship between P and Q is
P berubah secara langsung dengan punca kuasa tiga Q.
Hubungan antara P dengan Q ialah

A $P \propto Q^{\frac{1}{3}}$ C $P \propto \frac{1}{Q^3}$

B $P \propto Q^3$ D $P \propto \frac{1}{Q^{\frac{1}{3}}}$

2. P varies inversely as the cube root of Q.
Given that k is a constant, find the relation between P and Q.
P berubah secara songsang dengan punca kuasa tiga Q.
Diberi bahawa k ialah pemalar, cari hubungan antara P dengan Q.

A $P = kQ^{\frac{1}{3}}$ C $P = kQ^3$

B $P = \frac{k}{Q^{\frac{1}{3}}}$ D $P = \frac{k}{Q^3}$

3. It is given that F varies directly as the square root of G and inversely as the square of H.
Find the relationship between F, G and H.
Diberi bahawa F berubah secara langsung dengan punca kuasa dua G dan secara songsang dengan kuasa dua H.
Cari hubungan antara F, G dan H.

A $F \propto \frac{G^2}{\sqrt{H}}$ C $F \propto \frac{H^2}{\sqrt{G}}$

B $F \propto \frac{\sqrt{G}}{H^2}$ D $F \propto \frac{\sqrt{H}}{G^2}$

4. It is given that F varies directly as the cube root of G and inversely as the square of H.
Find the relation between F, G and H.
Diberi bahawa F berubah secara langsung dengan punca kuasa tiga G dan secara songsang dengan kuasa dua H.
Cari hubungan antara F, G dan H.

A $F \propto \frac{G^3}{\sqrt{H}}$

B $F \propto \frac{\sqrt{H}}{G^3}$

C $F \propto \frac{\sqrt[3]{G}}{H^2}$

D $F \propto \frac{H^2}{\sqrt[3]{G}}$

5. Table below shows some values of the variables x and y where y varies inversely as the square root of x.
Jadual di bawah menunjukkan beberapa nilai pemboleh ubah x dan y dengan keadaan y berubah secara songsang dengan punca kuasa dua x.

x	25	100
y	2	1

Table /*Jadual*

Find the relation between y and x.
Cari hubungan antara y dengan x.

A $y = 10\sqrt{x}$ C $y = 25\sqrt{x}$

B $y = \frac{10}{\sqrt{x}}$ D $y = \frac{25}{\sqrt{x}}$

6. Given p varies directly as the square of q and inversely as r. Find the relation between p, q and r.
Diberi p berubah secara langsung dengan kuasa dua q dan secara songsang dengan r. Cari hubungan antara p, q dan r.

A $p \propto q^2 r$

B $p \propto \frac{q^2}{r}$

C $p \propto \frac{r}{q^2}$

D $q^2 \propto \frac{p}{r}$

7. P varies directly as the cube root of Q and varies inversely as the square of T.
Given that the constant is k, find the relation between P, Q and T.

P berubah secara langsung dengan punca kuasa tiga Q dan berubah secara songsang dengan kuasa dua T.
Diberi k ialah pemalar, cari hubungan antara P, Q dan T.

A $P = \frac{kQ^3}{\sqrt{T}}$ **C** $P = \frac{k\sqrt[3]{Q}}{T^2}$

B $P = \frac{k\sqrt{Q}}{T^2}$ **D** $P = \frac{k\sqrt[3]{Q}}{\sqrt{T}}$

8. Given $E \propto F$ and $E = 14$ when $F = 4$. Find the value of E when $F = 6$.
Diberi $E \propto F$ *dan* $E = 14$ *apabila* $F = 4$. *Cari nilai E apabila* $F = 6$.

A 12 **C** 24
B 21 **D** 42

9. y varies inversely as the cube of x.
Find the relation between y and x.
y berubah secara songsang dengan kuasa tiga x.
Cari hubungan antara y dan x.

A $y \propto x^3$

B $y \propto \sqrt[3]{x}$

C $y \propto \frac{1}{x^3}$

D $y \propto \frac{1}{\sqrt[3]{x}}$

10. m varies inversely as the square root of n.
The relation between m and n is
m berubah secara songsang dengan punca kuasa dua n.
Hubungan antara m dan n ialah

A $m \propto \frac{1}{n^2}$

B $m \propto \frac{1}{n^{\frac{1}{2}}}$

C $m \propto n^2$

D $m \propto n^{\frac{1}{2}}$