**Direct and Inverse Proportion Revision**

|  |  |  |  |
| --- | --- | --- | --- |
| **(a)** | **(b)** | **(c)** | **(d)** |
| $y$ is directly proportional to $x$. When $x=8, y=40$. Find a formula for $y$ in terms of $x$. | $F$ is inversely proportional to $t$. When $F=2.5, t=4$. Find a formula for $F$ in terms of $t$. | $p$ is directly proportional to the square of $q$. When $q=3,$$ p=90$. Find a formula linking $p$ and $q$. | $y$ is directly proportional to $x^{3}.$When $x=5, y=2500$. Find a formula for $y$ in terms of $x$. |
| **(e)** | **(f)** | **(g)** | **(h)** |
| Sketch the graph showing $y$ is inversely proportional to $x$. | $y$ is directly proportional to $\sqrt{x}$. When $x=4, y=0.5$. Find the value of $y$ when $x=64$. | $d$ is inversely proportional to $w^{2}$. When $w=0.5, d=12$. Find a formula for $d$ in terms of $w$. | $T$ is inversely proportional to $\sqrt{L}.$ When $L=16, T=25$. Find the value of $L$ when$ T=10$. |
| **(i)** | **(j)** |
| The distance $d$ travelled by a ball is proportional to the square of the time taken,$ t$. After 4 seconds the ball has travelled 40 m.(i) Find a formula linking $d$ and t.(ii) Find the distance travelled after 7 seconds. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| $$x$$ | $$1$$ | $$2$$ | $$5$$ | $$10$$ | $$20$$ |
| $$y$$ | $$100$$ | $$25$$ | $$4$$ |  |  |

(i) Find a formula for $y$ in terms of $x$.(ii) Complete the table. |