CH12

12.2

18.$p_2 - p_1$

22.單純相加

25.取絕對值 length of $\vec{z}= (a,b,c)$ is $\sqrt{a^2+b^2+c^2}$ 之值除該向量

33.同 25

12.3

4.8.

內積$(a,b)\cdot(c,d) = ac + bd$

Norm of v=(a,b,c) is $\sqrt{a^2+b^2+c^2}$

the scalar component of u in the direction v is $|u|\cos\theta$

$proj_{\vec{v}}\vec{u} = \frac{|u|\cos\theta}{|v|}$v

12.4

3.6

If $u = a\vec{\imath} + b\vec{\jmath} + c\vec{k}$, $j = d\vec{\imath} + e\vec{\jmath} + f\vec{k}$

Then, $\vec{u}\times\vec{v} = \begin{vmatrix} i & j & k \\ a & b & c \\ d & e & f \end{vmatrix}$

16.$\overrightarrow{PQ}\times\overrightarrow{PR}$ =?

12.2

18 $-4i - 2j + 5k$

22 $5i + 3j - k$

25 length:3 ,the direction $\frac{2}{3}i + \frac{1}{3}j - \frac{2}{3}$

33 the desired vector is $\frac{7}{13}(12i - 5k)$

12.3

4

(a) 13,15,3

(b)$\frac{13}{45}$

(c)$\frac{13}{15}$

(d)$\frac{13}{225}(2i + 10j - 11k)$

8

(a)$\frac{1}{6}$

(b)$\frac{1}{5}$

(c)$\frac{1}{\sqrt{30}}$

(d)$\frac{1}{5} < \frac{1}{\sqrt{2}}, \frac{1}{\sqrt{3}} >$

12.4

3, length=0 and has no direction

length=0 and has no direction

6 length=1 the direction is J

length=1 the direction is - J