Exercise 10.4

answers on p. 438

Use a calculator to do the following. For trigonometrical ratios, give your answers correct to 4 significant figures. Answers in degrees should be given to 1 decimal place.

1. Find the following trigonometrical ratios.

(a) sin 20°	**(b)** sin 25.3°	**(c)** sin 42.7°
(d) cos 20°	**(e)** cos 20.4°	**(f)** cos 28.4°
(g) tan 45°	**(h)** tan 64.4°	**(i)** tan 50.5°
(j) sin 46°	**(k)** tan 35°	**(l)** cos 28°
(m) sin 24.5°	**(n)** tan 43.4°	**(o)** cos 54.8°
(p) sin 4.2°	**(q)** tan 3.1°	**(r)** cos 86.1°
(s) sin 23° × cos 43°	**(t)** tan 42° × sin 57°	**(u)** cos 44° × tan 26°

2. Find $\hat{a}$ if:

(a) sin $\hat{a}$ = 0.010 5	**(b)** sin $\hat{a}$ = 0.245	**(c)** sin $\hat{a}$ = 0.353
(d) cos $\hat{a}$ = 0.996	**(e)** cos $\hat{a}$ = 0.956	**(f)** cos $\hat{a}$ = 0.013 7
(g) tan $\hat{a}$ = 0.019	**(h)** tan $\hat{a}$ = 0.997	**(i)** tan $\hat{a}$ = 1.23

3. Find $\hat{a}$ if:

(a) cos $\hat{a}$ = sin 52.1° × tan 22.4° **(b)** sin $\hat{a}$ = tan 46.2° × cos 47.1°

(c) tan $\hat{a}$ = sin 36.5° × cos 53.5° **(d)** cos $\hat{a}$ = tan 35.4° × sin 23.6°

4. Calculate the following.

(a) sin 25.4° × cos 22.6° **(b)** tan 36.7° × sin 42° × cos 10.2°

(c) cos 41.2° × tan 24.2° × sin 29.2°

(d) $\dfrac{\sin 42.5° \times \tan 27.9°}{\cos 45.8°}$ **(e)** $\dfrac{\tan 66° \times \cos 73°}{\sin 82°}$