

1. Re-write each expression in terms of the angle  $\theta$  between the limits  $0^\circ < \theta < 90^\circ$ .

e.g  $\sin 210^\circ = -\sin 30^\circ$

(a)  $\sin 150^\circ$

(b)  $\cos 210^\circ$

(c)  $\tan 350^\circ$

(d)  $\cos 310^\circ$

(e)  $\sin 260^\circ$

(f)  $\tan 143^\circ$

(g)  $\tan 315^\circ$

(h)  $\cos 144^\circ$

(i)  $\sin 288^\circ$

2. For each sine value of the angle  $\theta$  given, write down the possible values of  $\theta$  where  $0^\circ < \theta < 360^\circ$ . (answers to 1 d.p.)

(a) 0.2453

(b) -0.3221

(c) 0.2893

(d) -0.5502

(e) 0.7229

(f) -0.1978

3. For each cosine value of the angle  $\theta$  given, write down the possible values of  $\theta$  where  $0^\circ < \theta < 360^\circ$ . (answers to 1 d.p.)

(a) -0.6687

(b) 0.9104

(c) -0.3977

(d) 0.4381

(e) -0.1137

(f) 0.7711

4. For each tangent value of the angle  $\theta$  given, write down the possible values of  $\theta$  where  $0^\circ < \theta < 360^\circ$ . (answers to 1 d.p.)

(a) 0.9133

(b) -1.6683

(c) 2.9005

(d) -3.8433

(e) 1.7349

(f) -4.2155

1.

(a)  $\sin 30^\circ$

(b)  $-\cos 30^\circ$

(c)  $-\tan 10^\circ$

(d)  $\cos 50^\circ$

(e)  $-\sin 80^\circ$

(f)  $-\tan 37^\circ$

(g)  $-\tan 45^\circ$

(h)  $-\cos 36^\circ$

(i)  $-\sin 72^\circ$

2.

(a)  $14.2^\circ, 165.8^\circ$

(b)  $198.8^\circ, 341.2^\circ$

(c)  $16.8^\circ, 163.2^\circ$

(d)  $213.4^\circ, 326.6^\circ$

(e)  $46.3^\circ, 133.7^\circ$

(f)  $191.4^\circ, 348.6^\circ$

3.

(a)  $132.0^\circ, 228.0^\circ$

(b)  $24.4^\circ, 335.6^\circ$

(c)  $113.4^\circ, 246.6^\circ$

(d)  $64.0^\circ, 296.0^\circ$

(e)  $96.5^\circ, 263.5^\circ$

(f)  $39.5^\circ, 320.5^\circ$

4.

(a)  $42.4^\circ, 222.4^\circ$

(b)  $120.9^\circ, 300.9^\circ$

(c)  $71.0^\circ, 251.0^\circ$

(d)  $104.6^\circ, 284.6^\circ$

(e)  $60.0^\circ, 240.0^\circ$

(f)  $103.3^\circ, 283.3^\circ$