Trigonometric Equations and Functions

1 Trigonometric Equations Solutions

1. i. $30°$ or $150°$
   ii. $30°$ or $330°$
   iii. $45°$ or $225°$
   iv. $150°$ or $210°$
   v. $120°$ or $300°$
   vi. $60°$ or $120°$
   vii. $120°$ or $240°$
   viii. $45°, 135°, 225°$ or $315°$
   ix. $30°, 150°, 210°, 330°$

2. i. $15°, 75°, 195°, 255°$
   ii. $50°, 110°, 170°, 230°, 290°, 350°$
   iii. $22.5°, 157.5°, 202.5°, 337.5°$
   iv. $112.5°, 157.5°, 292.5°, 337.5°$
   v. $0°, 60°, 120°, 180°, 240°, 300°$
   vi. $45°, 135°, 225°, 315°$

2 Trig Functions

1. (a) Range: $[-3, 3]$ Period: 2π
   (b) Range: $[-1, 1]$ Period: π
   (c) .
   (d) $h(x) = 2\sin(4x)$

2. (a) $f(x) = \sin(2x)$
   (b) $a = \frac{\pi}{6}, b = \frac{\pi}{3}, c = \frac{7\pi}{6}, d = \frac{4\pi}{3}$

3. (a) $f(x) = 2\cos(x)$
   (b) $a = \frac{4\pi}{3}, b = \frac{8\pi}{3}, c = \frac{14\pi}{3}, d = \frac{16\pi}{3}$