

2 De Moivre and Maclaurin – Part 2 —Answers

Answers

Work through these after trying the questions yourself.

2.6 $(\cos \theta + i \sin \theta)^n = \cos n\theta + i \sin n\theta$.

2.7 5.

2.8 72° .

2.9 $1 + x + \frac{x^2}{2!}$ (that is, $1 + x + \frac{x^2}{2}$).

2.10 It fits the curve over a wider range (a better approximation).

2.11 $(\cos 20^\circ + i \sin 20^\circ)^9 = \cos(9 \times 20^\circ) + i \sin(9 \times 20^\circ) = \cos 180^\circ + i \sin 180^\circ = -1$.