

## 2 De Moivre and Maclaurin – Part 2

### — Answers

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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**  $72^\circ$ .

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