

## Module 7: Examples of functions from geometry

### Part B – Operations with square roots

Operations with radical will generate a simplified form of the radical.

$$\sqrt{12+15} = 3\sqrt{3}$$

$$\sqrt{3 \times 9} = 3\sqrt{3}$$

When adding and subtracting radicals they calculator will combine like terms and output the simplest form.

$$\sqrt{12+15} + \sqrt{12} = 5\sqrt{3}$$

$$5\sqrt{3} - 7\sqrt{3} - 2\sqrt{3} = -4\sqrt{3}$$

When multiplying with radicals the outside multiplies the outside and the numbers under the radical will multiply with the numbers under the radical.

AC ( 2  $\sqrt{\square}$  3  $\rightarrow$  )  $\times$  ( 3  $\sqrt{\square}$  5  $\rightarrow$  ) =

$$(2\sqrt{3}) \times (3\sqrt{5}) = 6\sqrt{15}$$

The calculator will also distribute.

( 2  $\sqrt{\square}$  3  $\rightarrow$  )  $\times$  ( 3  $\sqrt{\square}$  2  $\rightarrow$  ) - 4  $\sqrt{\square}$  7  $\rightarrow$  ) =

$$(2\sqrt{3}) \times (3\sqrt{2} - 4\sqrt{7}) = -8\sqrt{21} + 6\sqrt{6}$$

There can never be a square root in the denominator and the calculator will simplify this.

