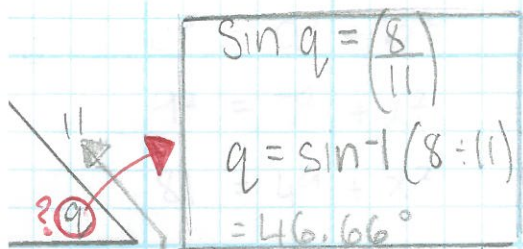


# Trig - Unknown Angles 18/6/11



$$\sin q = \left(\frac{8}{11}\right)$$

$$q = \sin^{-1}\left(\frac{8}{11}\right) = 46.66^\circ$$

Calculator...

$$2ndF | + | \sin | + | ( | + | \text{number} | + | \div | + | |$$

$$\text{number} | \div | 2 | =$$

et hutenuse = in / SOH

triangle trig ratio  
taking the inverse of the trig ratio

# atics

\* Anything to the "power of 0" is 1!

things called polynomials of degree 2

$$x + 2 = n^2 + on - 3$$

Form

$$c + cx$$

may be given in expanded form or factorised form.

$$x + 6 = (x - 3)(x - 2)$$

form factorised form

# Expanding Brackets

→ Factorised Form to Expanded Form 29/6/11

(Use smiley face method to) multiply everything in the first bracket by everything in the second.

eg:  $(2x + 1)(x - 3) = 2x^2 + x - 6x - 3 \rightarrow$  simplify by collecting like terms.

*Diagram: A smiley face method diagram for (2x+1)(x-3). The first bracket (2x+1) is circled in red. The second bracket (x-3) is also circled in red. Arrows show 2x multiplying x to get 2x^2, 2x multiplying -3 to get -6x, 1 multiplying x to get +1x, and 1 multiplying -3 to get -3. The -6x and +1x terms are grouped together with an arrow pointing to -5x.*

# Factorising Quadratics

→ The reverse of expanding

30/6/11

We need to look at a quadratic functions for the following clues:

eg.  $x^2 - 3x - 10 = (x + 2)(x - 5)$

- 1 Plain old  $x^2$  means  $(x \quad)(x \quad)$
- 2 2nd sign:  $+$  = same sign  
 $-$  = different sign
- 3 list pairs of factors of ten  $\rightarrow (5, 2)(10, 1)$
- 4 Pick the one that subtracts to give 3
- 5 Biggest factor

These are the rules + notes for factorising that this same student built.

Key Messages:

- Students with good algebraic habits can unpack/explain what they're doing with numbers, using
- This can be used as a spring board for formalising techniques

Measurement / Geometry  
Probability / Statistics