Activity 21

Trigonometric expressions

1.

a) $\cos^2 x + \sin^2 x$

b) 1

c) $1 - 2\sin^2 x$

d) $\sin(x+y)$

e) $\sin(3y-1)$

f) $\sin(x+y)$

g) $\cos x \sin y + \sin x \cos y$

h) $\sin(x+y)$

i) $\cos(x+y)$

j) $2\sin x \cos y$

k) $\sin(2x)$

1) $2\sin x \cos x$

m) $-\sin^3 x + 3\cos^2 x \sin x$

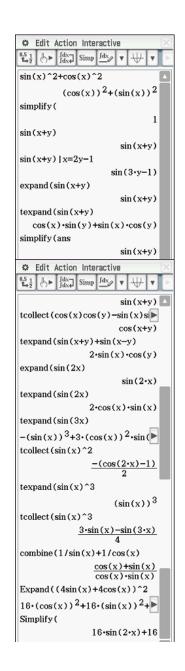
 $n) \quad \frac{1-\cos 2x}{2}$

o) $\sin^3 x$

 $p) \quad \frac{3\sin x - \sin 3x}{4}$

 $q) \quad \frac{2(\cos x + \sin x)}{\sin(2x)}$

r) $16\sin(2x) + 16$



2.

- a) | Substitute the following expression
- b) tCollect: Transforms products into sums
- c) tExpand: Uses sum and difference formulae to expand expressions
- d) combine: Transforms fraction sums or differences into a single fraction
- e) expand: Multiplies out brackets
- f) simplify: Attempts to simplify the expression. Some results are unexpected. The result is just the way the CAS engine has been programmed.