W4 – Factor $ax^2 + bx + c$ where $a \neq 1$ Unit 3

MPM2D

Jensen

1) Factor, if possible.

a) $2x^2 + 7x + 5$

b) $6y^2 + 19y + 8$

c) $4k^2 + 15k + 9$

d) $3m^2 + 10m + 8$

e) $10w^2 + 15w + 3$

f) $12q^2 + 17q + 6$

g) $4x^2 - 11x + 6$

h) $5n^2 - 11n + 6$

i) $9b^2 - 24b + 7$

j) $3y^2 + 4y - 7$

k) $8k^2 - 6k - 5$

l) $5h^2 - 14h - 3$

m) $3x^2 + 7xy + 2y^2$

n) $2p^2 - 11pq + 5q^2$

o) $9x^2 - 9xy - 4y^2$

p) $8k^2 - 16k + 6$

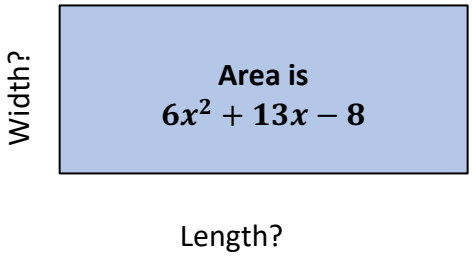
q) $6m^2 - 14m - 12$

r) $10r^2 - 22r + 4$

s) $2x^3 + 9x^2 + 4x$ **t)** $5x^2y - 7xy + 2y$

2) A rectangle has area defined by $6x^2 + 13x - 8$.

a) Factor to find algebraic expressions for the length and width



b) If $x = 10$ cm, what is the perimeter and area of the rectangle?

Answers

1)a) $(2x + 5)(x + 1)$ **b)** $(3y + 8)(2y + 1)$ **c)** $(4k + 3)(k + 3)$ **d)** $(3m + 4)(m + 2)$ **e)** not possible **f)** $(3q + 2)(4q + 3)$
g) $(x - 2)(4x - 3)$ **h)** $5n - 6)(n - 1)$ **i)** $(3b - 1)(3b - 7)$ **j)** $(3y + 7)(y - 1)$ **k)** $(2k + 1)(4k - 5)$ **l)** $(5h + 1)(h - 3)$
m) $(3x + y)(x + 2y)$ **n)** $(2p - q)(p - 5q)$ **o)** $(3x + y)(3x - 4y)$ **p)** $2(2k - 1)(2k - 3)$ **q)** $2(3m + 2)(m - 3)$
r) $2(5r - 1)(r - 2)$ **s)** $x(2x + 1)(x + 4)$ **t)** $y(5x - 2)(x - 1)$
2) length is $3x + 8$; width is $2x - 1$ **b)** $P = 114\ cm$; $A = 722\ cm^2$