

Simplifying algebra
Exam Style Questions

1. Simplify the following

(a) $7x + 2y + 4x + 8y$

..... (1 mark)

(b) $12a + 2b + 20a + 9b$

..... (1 mark)

(c) $6 + 2x + 3 + 12x$

..... (1 mark)

(d) $4a + 4ab + 3ab + b$

..... (1 mark)

(e) $x^2 + x^2$

..... (1 mark)

(f) $3a^2 + 2a^2$

..... (1 mark)

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(g) $4x^3 + x^2 + 8x^3$

..... (1 mark)

(h) $5x^6 + y^2 + x^6 + 5y^2$

..... (1 mark)

(i) $-4a + 3b + 2a - 8b + b$

..... (1 mark)

(i) $2x - y + 6x - 3y$

..... (1 mark)

(j) $-20x + 4y - 3x - 4y$

..... (1 mark)

(k) $11ab - 3ab + 5ac - 9ac$

..... (1 mark)

(l) $4xyz - 8 + 6xyz - 13 - 2xyz$

..... (1 mark)

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(m) $-18x - 2y + 3z + x$

..... (1 mark)

(n) $a + a + a + a + a$

..... (1 mark)

2. Simplify the following

(a) $x \times y$

..... (1 mark)

(b) $3a \times 2b$

..... (1 mark)

(c) $9x \times 3y$

..... (1 mark)

(d) $x \times x$

..... (1 mark)

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(e) $2x \times 3x$

..... (1 mark)

(f) $-2a \times 5a$

..... (1 mark)

(g) $-6x \times -3y$

..... (1 mark)

(h) $2xy \times 3xy$

..... (1 mark)

(i) $x \times y \times z$

..... (1 mark)

(i) $a \times 3b \times c$

..... (1 mark)

(j) $2x \times 3y \times 4y$

..... (1 mark)

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(k) $-x \times -x$

..... (1 mark)

(l) $2xy \times 7x$

..... (1 mark)

(m) $abc \times 2a$

..... (1 mark)

(n) $5s \times -3$

..... (1 mark)

(n) $a^2 \times a$

..... (1 mark)

3. Simplify the following

(a) $\frac{2a}{a}$

..... (1 mark)

(b) $\frac{16x}{20xy}$

..... (1 mark)

(c) $\frac{15x^2}{x}$

..... (1 mark)

(d) $\frac{30y^3}{3y^2}$

..... (1 mark)

(e) $\frac{x(x+2)}{2x}$

..... (1 mark)

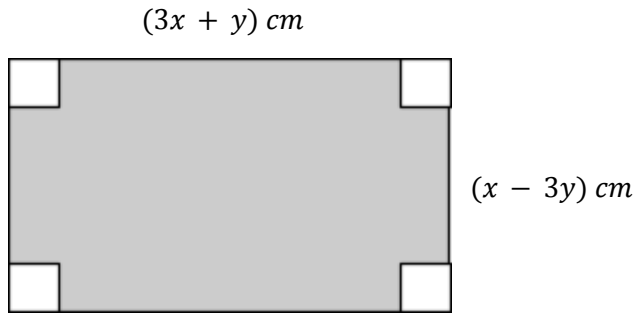
(f) $\frac{8abc}{16abd}$

..... (1 mark)



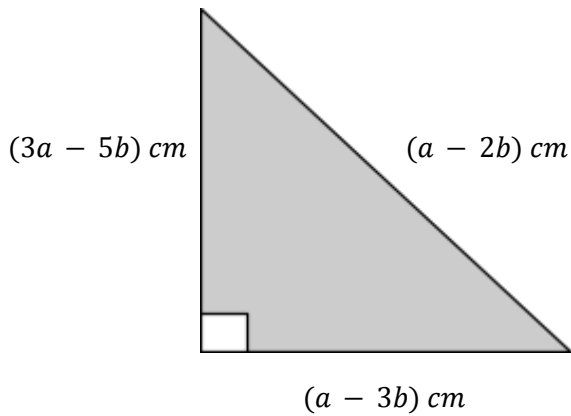
4. For each of the following shapes, find an expression for the perimeter.
Give your answers in simplest form.

(a)



Perimeter = *cm* (1)

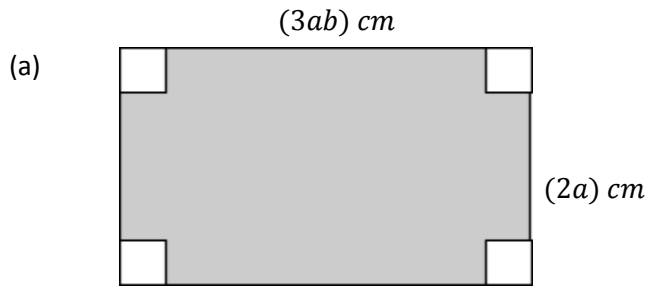
(b)



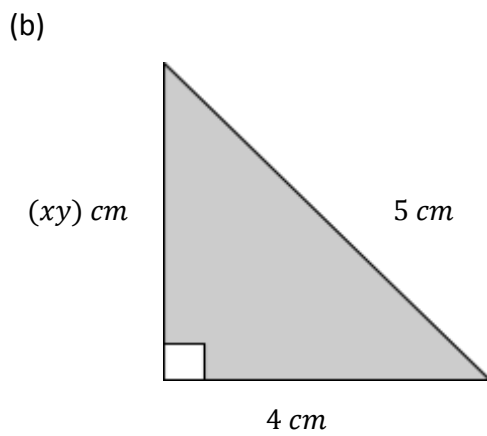
Perimeter = *cm* (1)

(2 marks)

5. For the following shapes, find an expression for the area.



Area = cm^2 (1)



Area = cm^2 (1)

(2 marks)
