



Subject: Mathematics

Second Semester / Quiz (2)

Name: Answers

Grade 8 CS ()

Date:

Question 1

2 marks

I think of a number, n , subtract 5 then square it, then multiply by 8.

Find an expression for the number I end up with.

$$8(n-5)^2$$

$$8(n-5)(n-5)$$

$$8(n^2 - 5n - 5n + 25)$$

$$8(n^2 - 10n + 25)$$

$$8n^2 - 80n + 200$$

Question 2

2 marks

A rectangle has width, w . The length of the rectangle is 10 less than the width. Find an expression for the perimeter of the rectangle.

width w

length $w - 10$

$$P = w + w + w - 10 + w - 10$$

$$P = 4w - 20$$

Question 3

2 marks

Find an expression for the shaded area of the following shape made using rectangles:

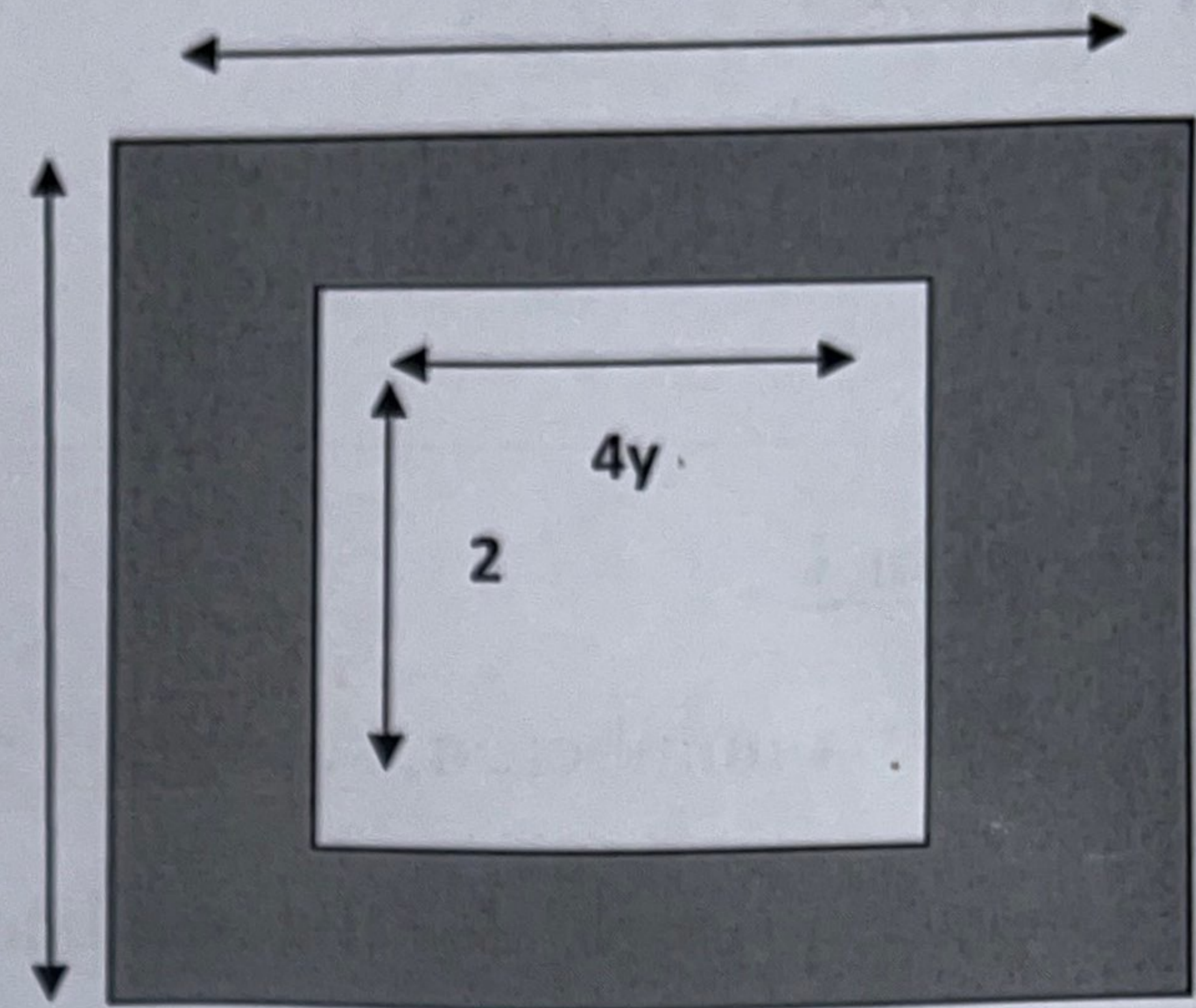
$$A_{\text{shaded}} = A_{\text{big}} - A_{\text{small}}$$

$$A_{\text{big}} = 9(y+3)$$
$$A_{\text{small}} = 2 \times 4y = 8y$$

$$= 9(y+3) - 8y$$

$$= 9y + 27 - 8y$$

$$= y + 27$$



Question 4

4 marks

Make x the subject of these formulae.

a) $y = x - 7$

$$y + 7 = x$$

$$x = y + 7$$

b) $y = \frac{x+r}{3}$

$$3y = x + r$$

$$3y - r = x$$

$$x = 3y - r$$

$$c) y = 3x^2w$$

$$\frac{y}{3w} = \frac{y}{3w}$$

$$\frac{y}{3w} = x^2$$

$$\sqrt{\frac{y}{3w}} = \sqrt{x^2}$$

$$x = \sqrt{\frac{y}{3w}}$$

$$d) y = 2(t + x)$$

$$\frac{y}{2} = \frac{y}{2}$$

$$\frac{y}{2} = t + x$$

$$\frac{y}{2} - t = x$$

$$x = \frac{y}{2} - t$$

or

$$x = \frac{y - 2t}{2}$$

Thank you!