

St Swithun's 16+ Solutions

1) a) $x + x - 18$

b) $-\frac{7}{15}$

2) a) $x = -8$ or 7

b) $-\frac{35}{2}$

c) $\frac{2}{3}$

3) $x = 2$ $y = -5$

4) a) 12cm b) $\frac{3}{4}$

5) $5x^2 + 4\sqrt{15}x + 12$

6) $r = 5.29\text{cm}$

7) $\angle OCB = 20^\circ$ (right angle), $\angle OBC = 20^\circ$ (isosceles since 2 sides are radii)
 $\angle ABC = 42^\circ$ (alternate segment theorem), $\angle OBA = \angle ABC - \angle OBC = 22^\circ$

8) $\frac{5}{8}$

9) $w = \frac{8r + t}{3r - 5}$

10) $y = \frac{2}{3}x + 1$ 11) $x = \pm 5$

12) 163

13) $e = 11$

14) 18

15) 4830
(but need good reason)

16) 1.2m

17) None

18) $x^3 - x = (x-1)x(x+1)$

which is 3 consecutive integers
so one is divisible by 3 and
one by 2 so the whole by 6

19) $\frac{5}{4}$

20) 48cm^2