

Challenge 2014 Maths 2 solutions

- 1) a) 2 minutes and 50 seconds
b) 7.5m/s
- 2) a) $2c$
b) $2x$
c) $T = \frac{a}{b} - 1$
d) $x=7.5$
- 3) a) 72cm
b) $219cm^2$
- 4) a) $x=7, y=8$
b) $6x-5y=5$
 $x=2.5$
- 5) £594
- 6) a) $600+15n$
b) 18
- 7) a) 7.89%
b) 43 to 49
c) £3.30 (£3.28 to £3.31)
- 8) 3480
- 9) $288cm^2$
- 10) $97.5cm^2$
- 11)a) 47%
b) £8 each
- 12)a) 159cm
b) 15 boys and 9 girls
- 13)a) $A = 2.5, B = 10, C = 3$
- 14)a) $s = \frac{1}{2}(a + b + c)$
b) i) $2\sqrt{14}$
ii) 24
c) Notice that (6, 8, 10) is a Pythagorean triple, so the triangle is right-angled.
So $Area = \frac{1}{2} \times base \times height = \frac{1}{2} \times 6 \times 8 = 24$
d) 11.2