

National 5

Short Task 35

- 1a. The waiting times, in minutes, for waiting on a train at Easton Station on weekdays are recorded below.

24 28 19 22 17 21 23

Calculate the mean and standard deviation of these waiting times.

- 1b. At weekends, the mean waiting time is 24 minutes and the standard deviation is 2.19.

Make two valid comments about these waiting times.

2. Evaluate each of the following:

a) $32^{\frac{3}{5}}$ b) $27^{-\frac{1}{3}}$ c) $64^{\frac{1}{2}} \times 2^{-2}$ d) 64^x where $x = -\frac{2}{3}$

3. Change the subject of the formula to P .

$$T = \frac{3(2L-P)}{Q}$$

4. A straight line is parallel to the line with equation $2x - 3y - 1 = 0$ and passes through the point (3,-4). Find the equation of this line.

5. A function has equation $f(x) = 2t^2 - 3$. Evaluate each of the following:

a) $f(5)$ b) $f(-3)$ c) $f(\frac{1}{2})$

- d) If $f(a) = 15$, find two values of a .

6. In Glasgow, a comedian sold 12 600 tickets. This was 25% more than the tickets he sold in Edinburgh. How many tickets did he sell for his Edinburgh show?

- 7a. Fully factorise $3p^2 - 27$.

- 7b. Hence, fully simplify.

$$\frac{p^2 - 2p - 15}{3p^2 - 27}$$