GCSE HIGHER · MIXED REVISION MAT 2

Mixed topics

1 Share £72 in the ratio 5 : 3.

2 Three consecutive even numbers add up to 78.

Find them.

3 Show that a sphere of diameter 6 cm has volume 36π cm^3.

4 A rectangle measures $\sqrt{12}$ cm by $\sqrt{27}$ cm.

Find its exact area and perimeter.

5 A histogram bar for the class $10 < x \leq 25$ has frequency density 2.4.

Show that its frequency is 36.

6 A rectangle measures $(x + 2)$ cm by $(2x - 1)$ cm.

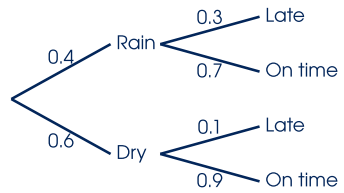
Its area is 33 cm^2.

Find x.

7 Show that increasing a price by 15% and then decreasing it by 15% gives a 2.25% decrease overall.

8 P(rain) = 0.4 each day.

If it rains, P(bus late) = 0.3; if not, 0.1.



Days are independent.

Find the probability that the bus is late on exactly one of two days.

ANSWERS · MIXED REVISION MAT 2

Mixed topics

1 8 parts = £72

£45 and £27

2 $3n + 6 = 78$

24, 26, 28

3 $r = 3$

$\frac{4}{3}\pi \times 27 = 36\pi$

4 $\sqrt{324} = 18$

$2(2\sqrt{3} + 3\sqrt{3})$

Area 18 cm², perimeter $10\sqrt{3}$ cm

5 $15 \times 2.4 = 36$

6 $2x^2 + 3x - 2 = 33$

$(2x - 7)(x + 5) = 0$

$x = 3.5$

7 $1.15 \times 0.85 = 0.9775$

A 2.25% decrease

8 P(late) = 0.12 + 0.06 = 0.18

$2 \times 0.18 \times 0.82$

0.2952