GCSE HIGHER · MIXED REVISION MAT 7

Mixed topics

1 Simplify

$$(x^3)^4 \div x^5$$

2 A prism has cross-sectional area 24 cm² and length 1.5 m.

Find its volume in cm³.

3 A class $30 < x \leq 50$ has frequency 16.

Show that its frequency density is 0.8.

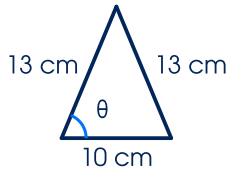
4 A ball's height is $h = 25t - 5t^2$ metres after t seconds.

When is it 20 m high?

5 After a 30% discount, a coat costs £56.

Show that the original price was £80.

6 Find the base angles of this isosceles triangle.



7 Show that

$$\frac{x^2 - 25}{x^2 + 2x - 15} = \frac{x - 5}{x - 3}$$

8 The ratio of Ann's age to Bob's age is 4 : 7.

In 12 years it will be 2 : 3.

Find their ages now.

ANSWERS · MIXED REVISION MAT 7

Mixed topics

1 x^7

2 24×150

3600 cm³

3 **16 ÷ 20 = 0.8**

4 $5t^2 - 25t + 20 = 0$

$(t - 1)(t - 4) = 0$

After 1 s and 4 s

5 $56 \div 0.7$

= 80

6 $\cos\theta = \frac{5}{13}$

θ = 67.4°

7 $\frac{(x-5)(x+5)}{(x+5)(x-3)}$

= $\frac{x-5}{x-3}$

8 $3(4x + 12) = 2(7x + 12)$

$x = 6$

Ann 24, Bob 42