

Past-paper walk-through

Similarity ■ E4.4

eXercise

Questions in this set

- 0580/22 N25 Q11 ■ 7 marks
- 0580/43 N25 Q22 ■ 5 marks

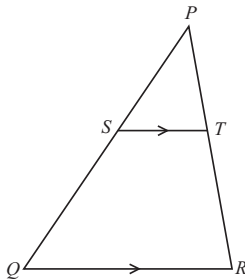
Reading the mark scheme

- **B1** a mark that stands on its own – the point is either made or not.
- **M1** a *method* mark: the right approach, even if the number is wrong.
- **A1** an *answer* mark, and it usually needs its M mark first.
- **C1** a working mark on the way to the answer.
- **//** separates answers the examiner accepts equally.
- **ecf** = error carried forward: a later part is marked on your own earlier answer.
- **owtte** = “or words to that effect” – the wording need not match.

Question 11

0580/22 N25 ■ Q11 ■ 7 marks

11

NOT TO
SCALE

In the diagram, S lies on PQ and T lies on PR .
 ST is parallel to QR .

Question 11

- (a) Explain why triangle PQR is mathematically similar to triangle PST .
Give a geometrical reason for each statement you make.

Question 11

(b) $ST = 3$ cm, $QR = 9$ cm and $PS = 5$ cm.

Work out PQ .

Question 11

- (c) The area of triangle PST is $2k \text{ cm}^2$.

Find, in terms of k , the area of quadrilateral $QRTS$.

Solution 11

(a) Mark scheme

- Three correct pairs with correct reasons
- $\angle PQR = \angle PST$ and corresponding angles
- $\angle PRQ = \angle PTS$ and corresponding angles
- $\angle QPR = \angle TPS$ and common angle
- OR
- Two correct pairs with correct reasons
- and correct similarity condition e.g. AAA
- 3 B2 for two correct pairs with correct

Solution 11

- reasons
- or B1 for one correct pair with correct
- reason

Solution 11

(b)

Mark scheme

- 15
- 2 M1 for $3/5 \ 9 = PQ$ oe or better

Solution 11

(c) Mark scheme

- 16k
- 2 M1
- for 32 or
- 2
- 1
- 3
- ()
- ()

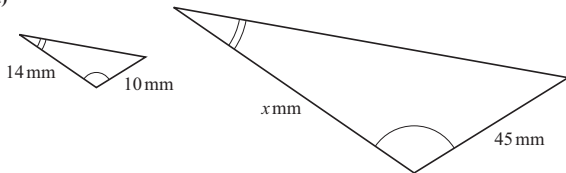
Solution 11

- ()
- oe
- 0580/22
- October/November 2025
- Partial Marks

Question 22

0580/43 N25 ■ Q22 ■ 5 marks

22 (a)

NOT TO
SCALE

The diagram shows two mathematically similar triangles.

Find the value of x .

Question 22

Question 22

- (b) The surface areas of two mathematically similar containers are 124 cm^2 and 279 cm^2 .
The capacity of the smaller container is 56 ml.

Find the capacity of the larger container.

Question 22

Question 22

Question 22

Solution 22

(a)

Mark scheme

- 63
- 2 M1 for 14/10
- 45
- =
- x
- oe or better

Solution 22

(b) Mark scheme

- 189
- 3 M2
- for
- 3
- 2
- 279
- 124
- (

Solution 22

■)

■ (

■)

■ (

■)

 $\times 56$ or $[56 \div]$

■ 3

■ 2

■ 124

■ 279

Solution 22

- (
-)
- (
-)
- (
-)
- oe or better
- or M1 for
- 1
- 2

Solution 22

- 279

- 124

- (

-)

- (

-)

- (

-)

- or

- 1

Solution 22

- 2
- 124
- 279
- (
-)
- (
-)
- (
-)
- or better

Solution 22

- or
- 3
- 2
- 279
- 124
- 56
- (
-)
- (
-)

Solution 22

■ =

■ (

■)

■ (

■)

■ (

■)

■ (

■)

■ ×

Solution 22

■ oe