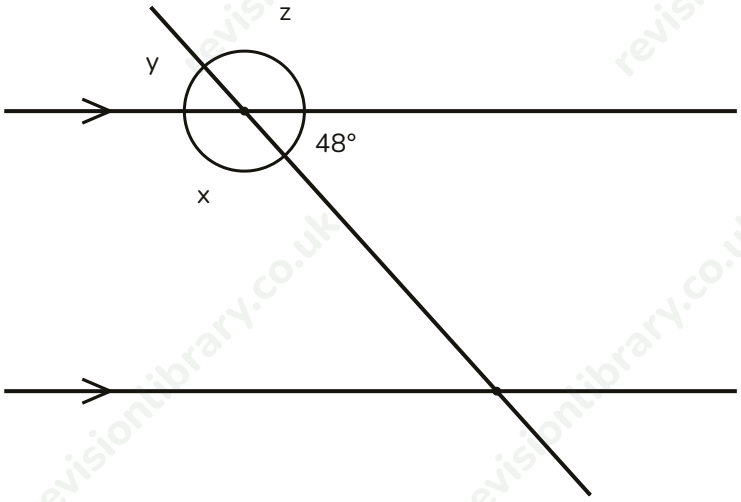
4.9 Angles in Parallel Lines: 10-minute Pack

Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

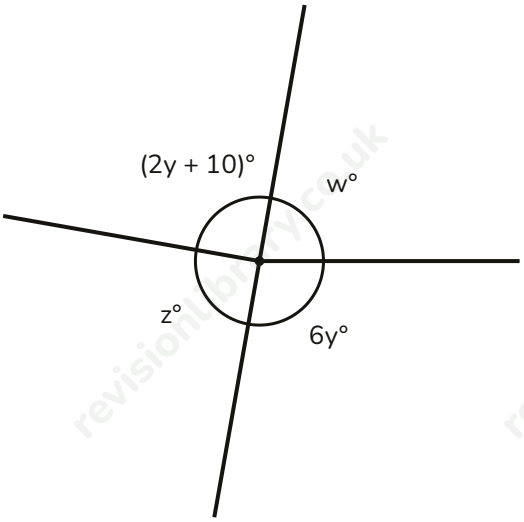
1 A transversal cuts two parallel lines. At one intersection the four angles are 48, x, y and z in order around the point. Given one is 48, find x, y and z and give a one-line reason for each.



(2)

© Revision Library | revisionlibrary.co.uk

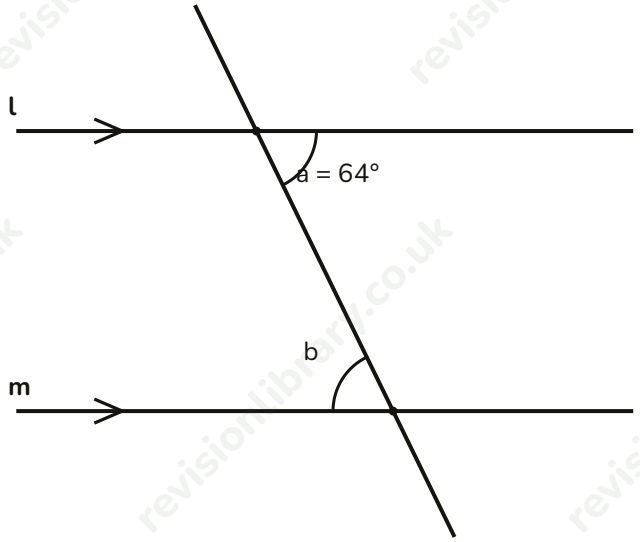
2 Stretch: Four angles meet at a point and are labelled in order around the point as 6y, z, (2y + 10) and w. Given that z = 6y and that w and (2y + 10) add up to 180, find y, z and w.



(5)

© Revision Library | revisionlibrary.co.uk

3 In the diagram two parallel lines l and m are cut by a transversal. Angle a on line l is 64 degrees as shown where a and b are alternate interior angles. Work out angle b.



(2)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 4.9 Angles in Parallel Lines: 10-minute Pack

Question 1

use vertically opposite and supplementary to find at least two correct angles	**M1**
x = 132, y = 48, z = 132 with brief reasons cao	**A1**

Answer: **x = 132 degrees, y = 48 degrees, z = 132 degrees**

Question 2

use the given relationship: z = 6y or state equality	**M1**
use the given relationship: w + (2y+10) = 180, so w = 170 - 2y	**M1**
use sum around point: 6y + z + (2y+10) + w = 360, substitute z = 6y to get 14y + 10 + w = 360	**M1**
combine with w = 170 - 2y to solve: 14y + 10 + (170 - 2y) = 360, so 12y + 180 = 360, giving y = 15	**M1**
final values y = 15, z = 90, w = 140 with clear working cao	**A1**

Answer: **y = 15, z = 90 degrees, w = 140 degrees**

Question 3

use of alternate angles with 64 = b or statement that alternate angles are equal	**M1**
b = 64 degrees cao	**A1**

Answer: **64 degrees**

© Revision Library | revisionlibrary.co.uk