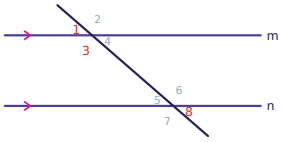
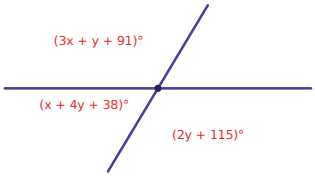
Angle Challenge Problems · 1

Lines m and n are parallel. m∠8 = (2x + 23)° and m∠1 = (6x - 13)°. Find m∠3.



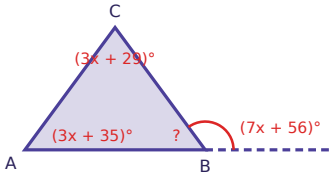
Angle Challenge Problems · 2

Two straight lines cross. Find the value of y.



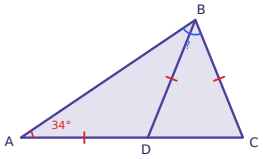
Angle Challenge Problems · 3

The exterior angle at B is (7x + 56)°, ∠A = (3x + 35)° and ∠C = (3x + 29)°. Find the interior angle at B.



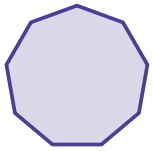
Angle Challenge Problems · 4

In triangle ABC, point D lies on AC so that AD = DB = BC. If ∠BAC = 34°, find ∠ABC.



Angle Challenge Problems · 5

Each interior angle of a regular 9-sided polygon measures (8x + 4)°. Find x.

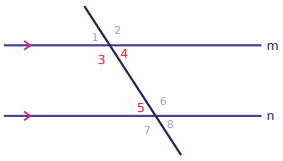


Angle Challenge Problems · 6

The angles of a triangle are in the ratio 5 : 9 : 4. Find the exterior angle at the vertex with the smallest angle.

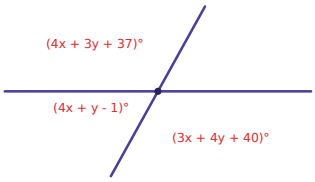
Angle Challenge Problems · 7

Lines m and n are parallel. m∠4 = (6x - 15)° and m∠5 = (2x + 33)°. Find m∠3.



Angle Challenge Problems · 8

Two straight lines cross. Find the value of x.



Angle Challenge Problems · 2

ANSWER

3

Angle Challenge Problems · 1

ANSWER

139°

Angle Challenge Problems · 4

ANSWER

78°

Angle Challenge Problems · 3

ANSWER

68°

Angle Challenge Problems · 6

ANSWER

140°

Angle Challenge Problems · 5

ANSWER

17

Angle Challenge Problems · 8

ANSWER

13

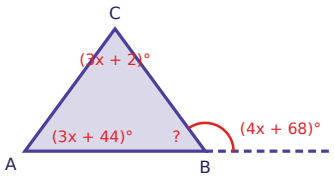
Angle Challenge Problems · 7

ANSWER

123°

Angle Challenge Problems · 9

The exterior angle at B is (4x + 68)°, ∠A = (3x + 44)° and ∠C = (3x + 2)°. Find the interior angle at B.



Angle Challenge Problems · 10

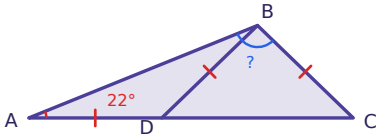
Each interior angle of a regular 24-sided polygon measures (10x + 35)°. Find x.

Angle Challenge Problems · 11

The angles of a triangle are in the ratio 4 : 5 : 1. Find the exterior angle at the vertex with the smallest angle.

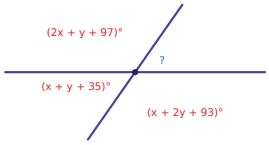
Angle Challenge Problems · 12

In triangle ABC, point D lies on AC so that AD = DB = BC. If ∠BAC = 22°, find ∠ABC.



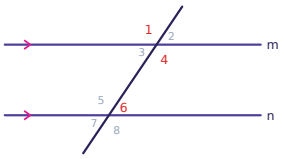
Angle Challenge Problems · 13

Two straight lines cross. Find x and y, then find the angle marked ?.



Angle Challenge Problems · 14

Lines m and n are parallel. m∠6 = (6x - 10)° and m∠4 = (9x + 25)°. Find m∠1.

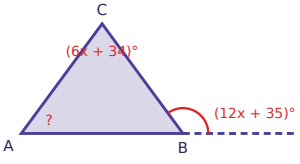


Angle Challenge Problems · 15

Each interior angle of a regular polygon is 60° more than each exterior angle. How many sides does it have?

Angle Challenge Problems · 16

In triangle ABC, CA = CB. The exterior angle at B is (12x + 35)° and ∠C = (6x + 34)°. Find ∠A.



Angle Challenge Problems · 10

ANSWER

13

Angle Challenge Problems · 9

ANSWER

68°

Angle Challenge Problems · 12

ANSWER

114°

Angle Challenge Problems · 11

ANSWER

162°

Angle Challenge Problems · 14

ANSWER

124°

Angle Challenge Problems · 13

ANSWER

55°

Angle Challenge Problems · 16

ANSWER

49°

Angle Challenge Problems · 15

ANSWER

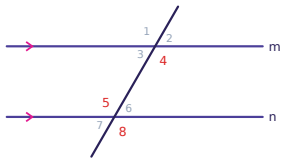
6

Angle Challenge Problems · 17

The exterior angles of a triangle (one at each vertex) are in the ratio 3 : 7 : 8. Find the largest interior angle of the triangle.

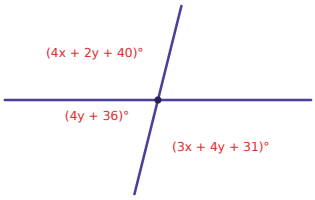
Angle Challenge Problems · 18

Lines m and n are parallel. m∠4 = (7x + 36)° and m∠8 = (13x - 36)°. Find m∠5.



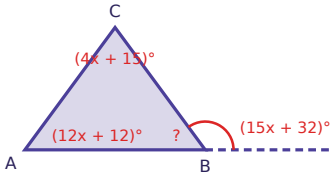
Angle Challenge Problems · 19

Two straight lines cross. Find the value of y.



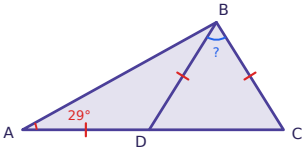
Angle Challenge Problems · 20

The exterior angle at B is (15x + 32)°, ∠A = (12x + 12)° and ∠C = (4x + 15)°. Find the interior angle at B.



Angle Challenge Problems · 21

In triangle ABC, point D lies on AC so that AD = DB = BC. If ∠BAC = 29°, find ∠DBC.



Angle Challenge Problems · 22

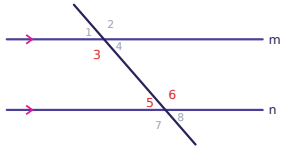
The interior angles of a regular polygon add up to 2880°. Find the measure of each exterior angle.

Angle Challenge Problems · 23

The angles of a triangle are in the ratio 5 : 3 : 4. Find the exterior angle at the vertex with the smallest angle.

Angle Challenge Problems · 24

Lines m and n are parallel. m∠3 = (14x + 61)° and m∠6 = (12x + 71)°. Find m∠5.



Angle Challenge Problems · 18

ANSWER

120°

Angle Challenge Problems · 17

ANSWER

120°

Angle Challenge Problems · 20

ANSWER

73°

Angle Challenge Problems · 19

ANSWER

10

Angle Challenge Problems · 22

ANSWER

20°

Angle Challenge Problems · 21

ANSWER

64°

Angle Challenge Problems · 24

ANSWER

49°

Angle Challenge Problems · 23

ANSWER

135°