

7 класс.
Решение задач.

II часть.

"Начальные
геометрические
сведения"



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Смежные и вертикальные углы.

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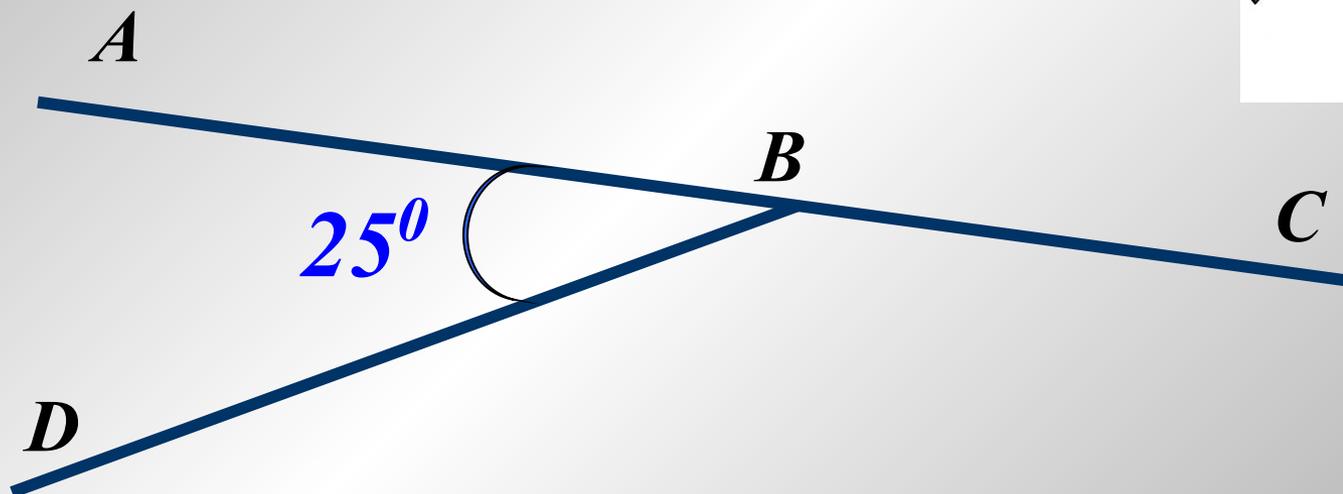
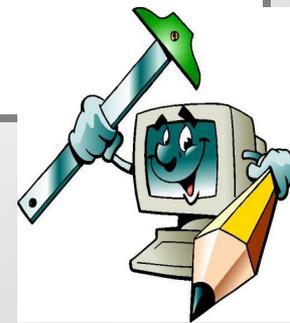
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1.

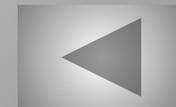
Дано: $\angle ABD = 25^{\circ}$

Найти: $\angle CBD$



Ответ:

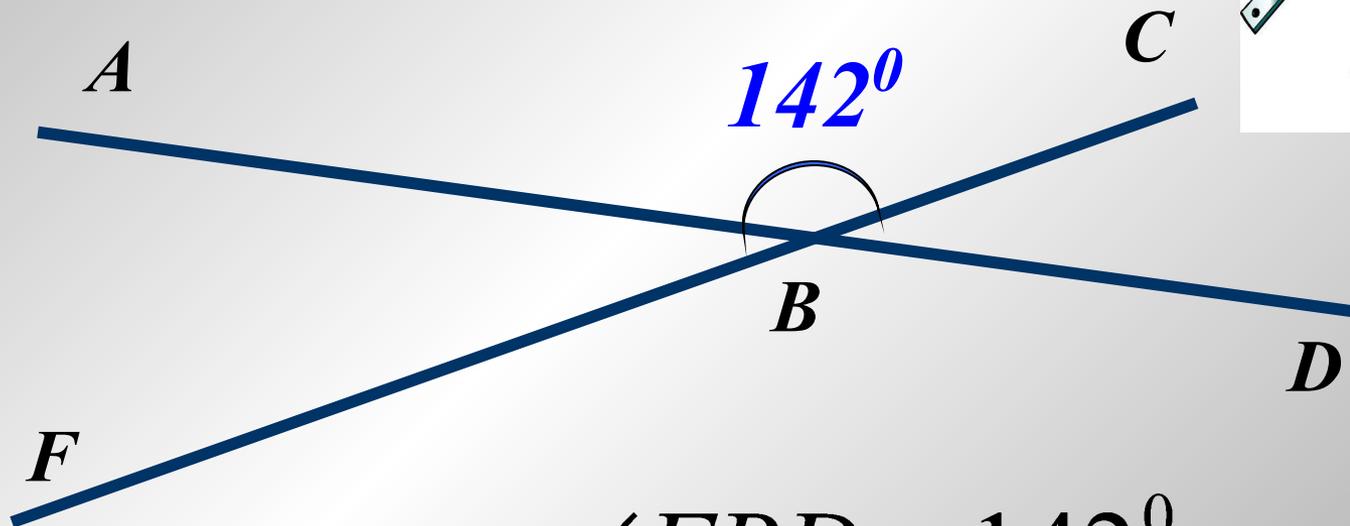
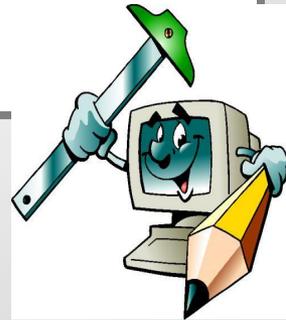
$$\angle CBD = 155^{\circ}$$



2.

Дано: $\angle ABC = 142^\circ$

Найти: $\angle FBD$, $\angle ABF$, $\angle CBD$



$$\angle FBD = 142^\circ$$

$$\angle ABF = 38^\circ$$

$$\angle CBD = 38^\circ$$

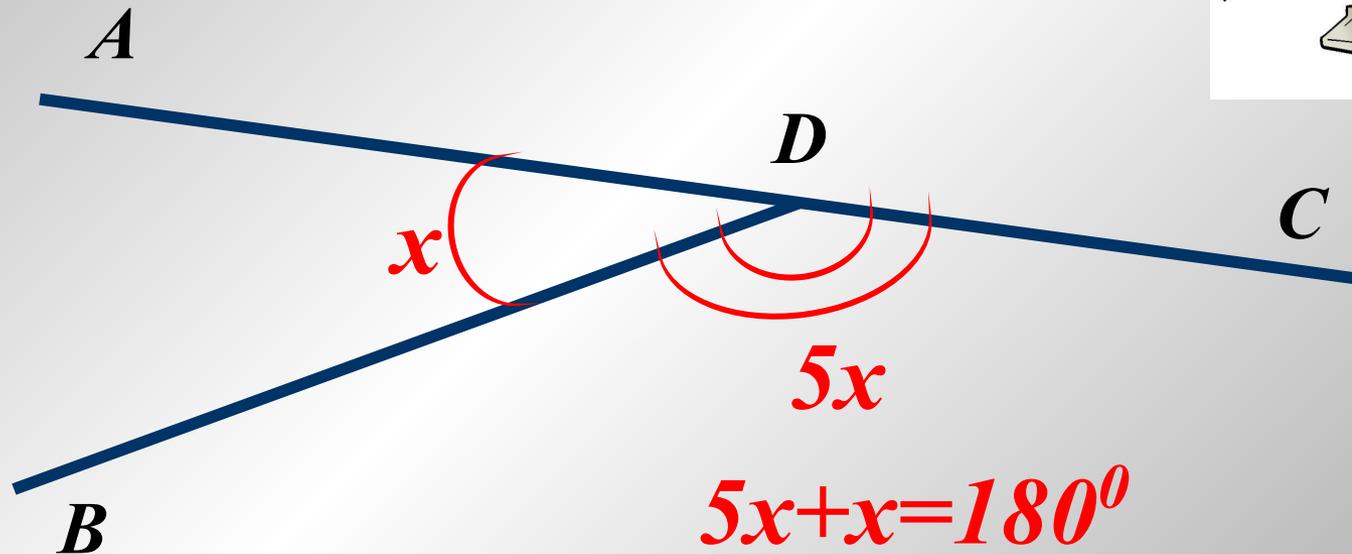
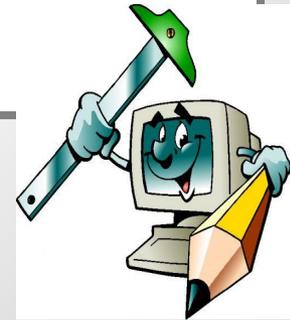
Ответ:



3.

Дано: $\angle ADB < \angle BDC$ в 5 раз

Найти: $\angle ADB, \angle BDC$



Подсказка.

$$\angle ADB = 30^\circ$$

Ответ:

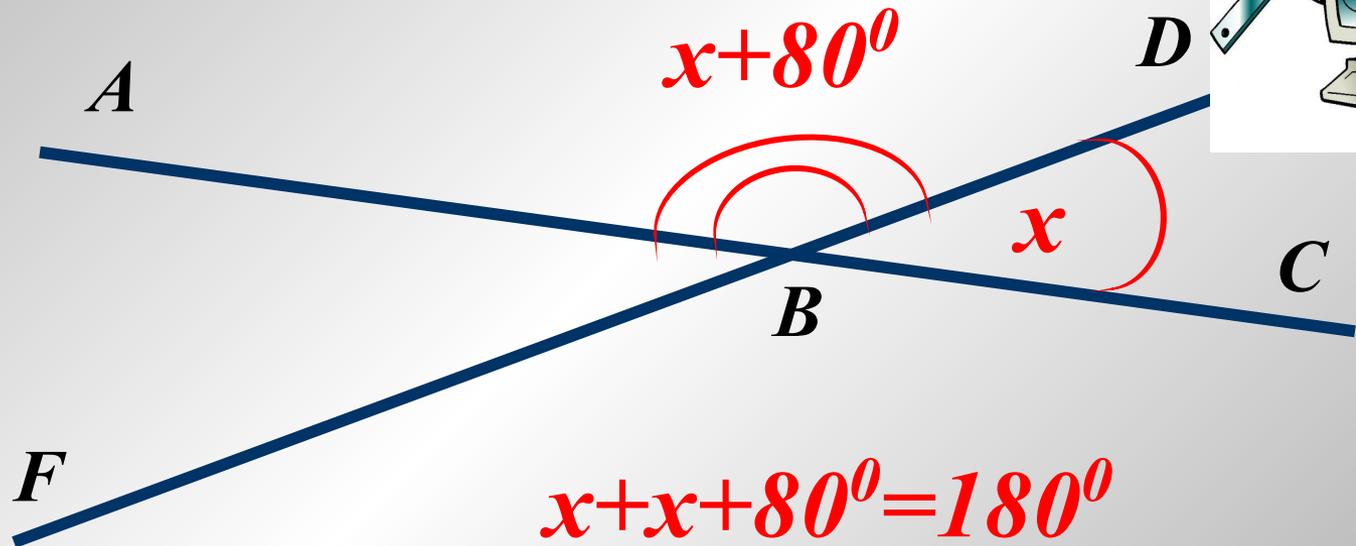
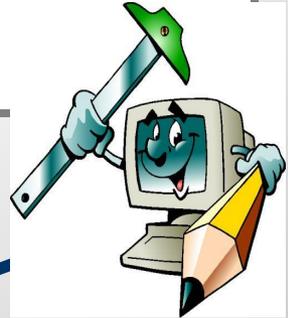
$$\angle BDC = 150^\circ$$



4.

Дано: $\angle DBC < \angle ABD$ на 80°

Найти: $\angle DBC, \angle FBC$



Подсказка.

$$\angle DBC = 50^\circ$$

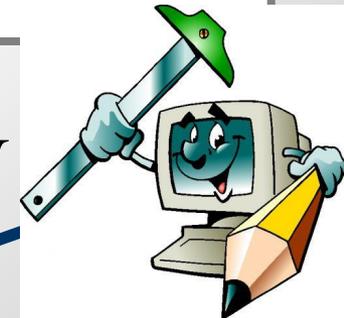
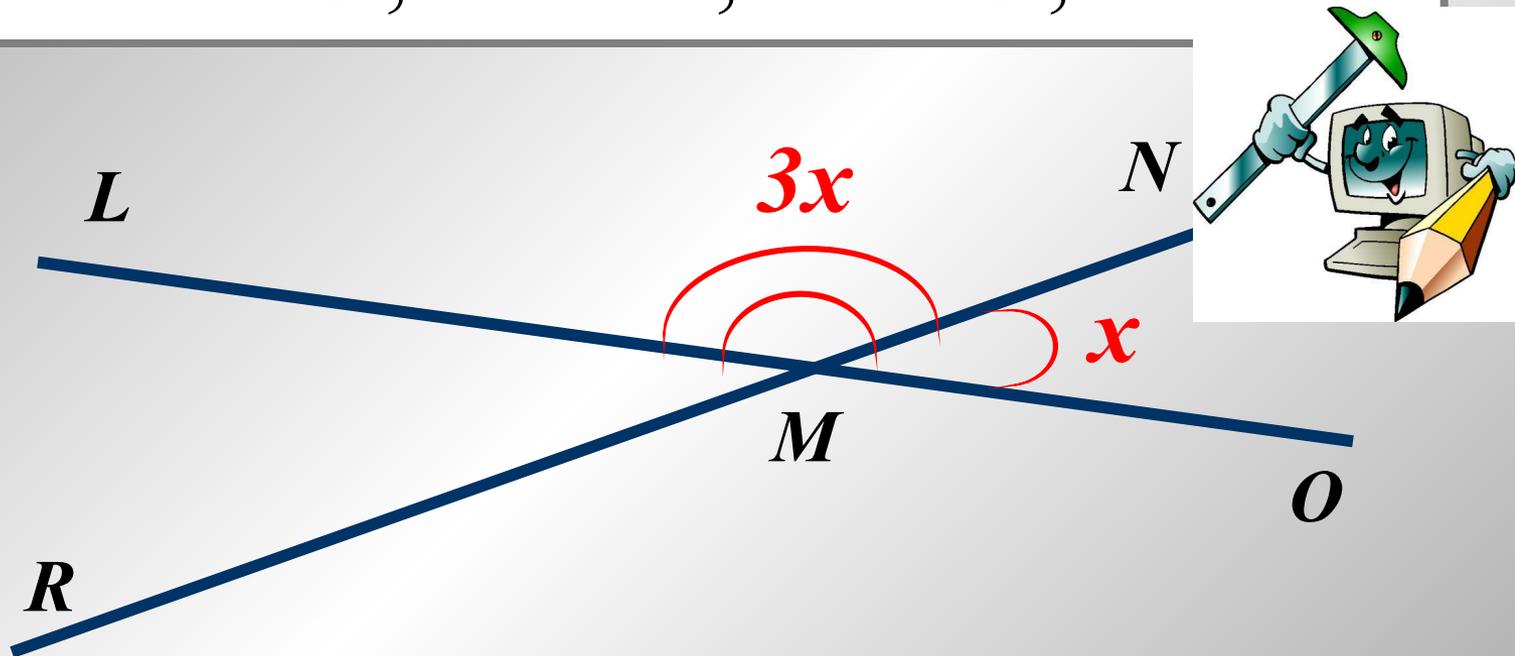
Ответ:

$$\angle FBD = 130^\circ$$



5. Дано: $\angle NMO : \angle LMN = 1:3$

Найти: $\angle NMO, \angle LMN, \angle RMO, \angle LMR$

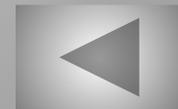


Подсказка.

$$\angle NMO = \angle LMR = 45^{\circ}$$

$$\angle LMN = \angle RMO = 135^{\circ}$$

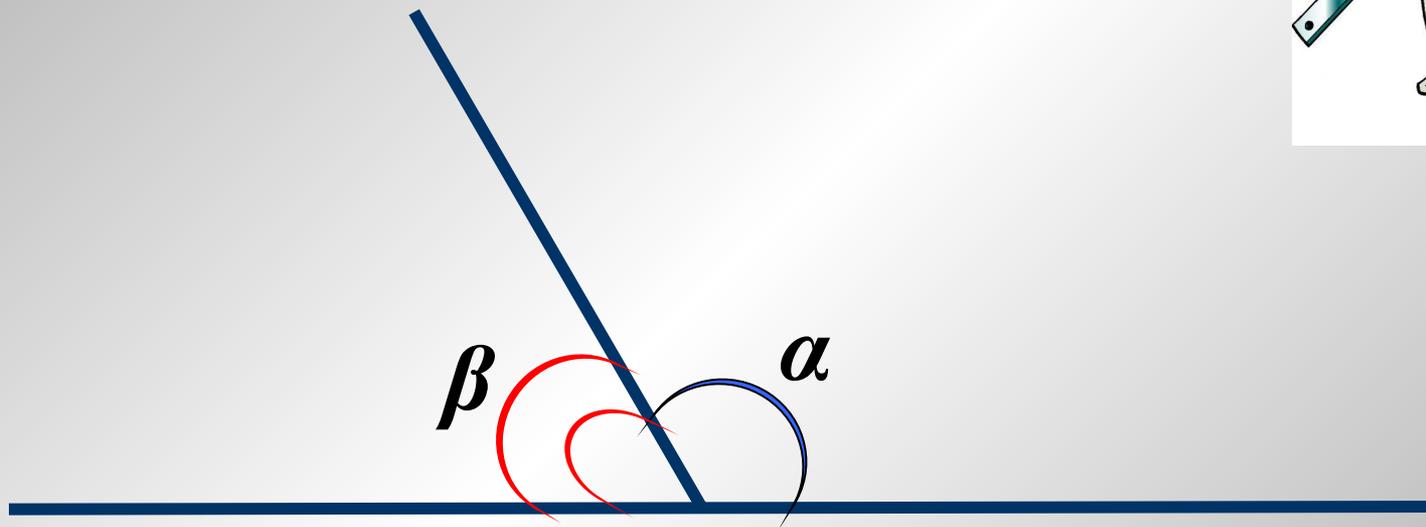
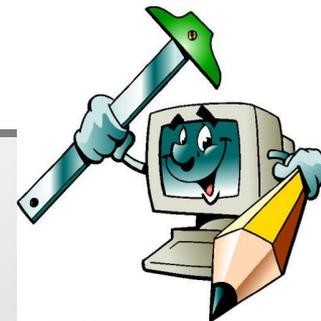
Ответ:



6.

Дано: $\alpha - \beta = 30^\circ$

Найти: α, β



Ответ:

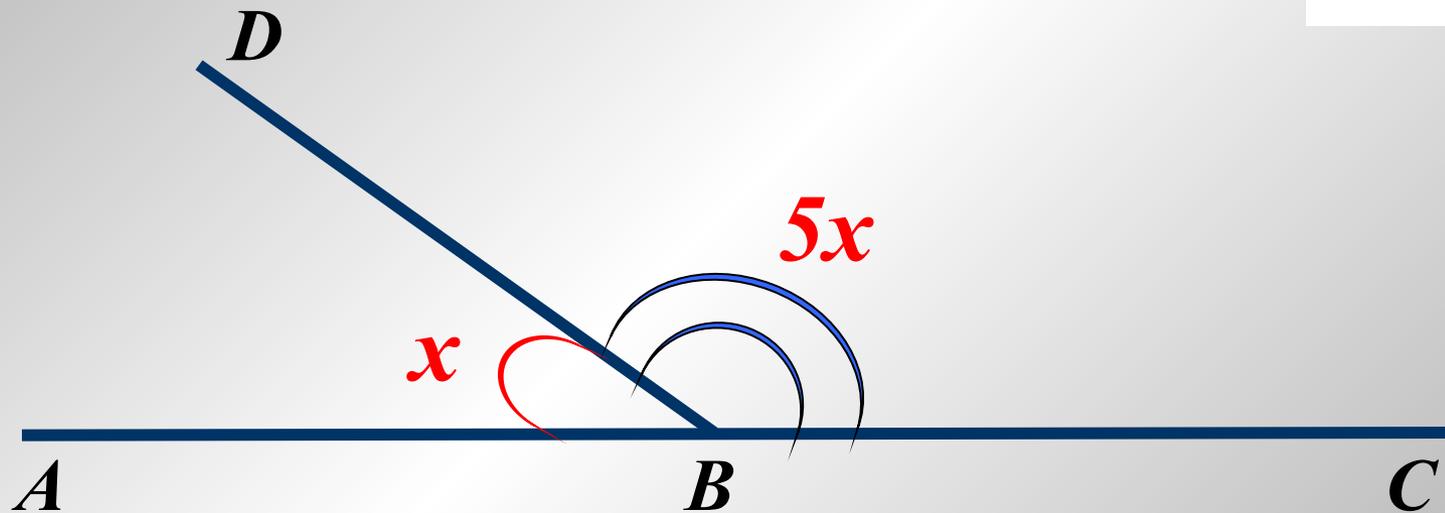
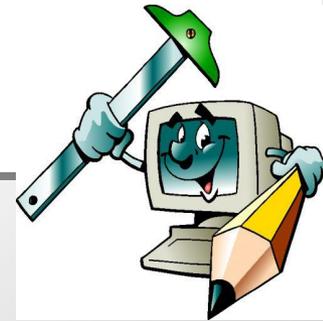
$$\alpha = 155^\circ, \beta = 75^\circ$$



7.

Дано: $\angle ABD : \angle CBD = 1 : 5$

Найти: $\angle ABD, \angle CBD$



Подсказка.

$$\angle ABD = 30^{\circ}, \angle CBD = 150^{\circ}$$

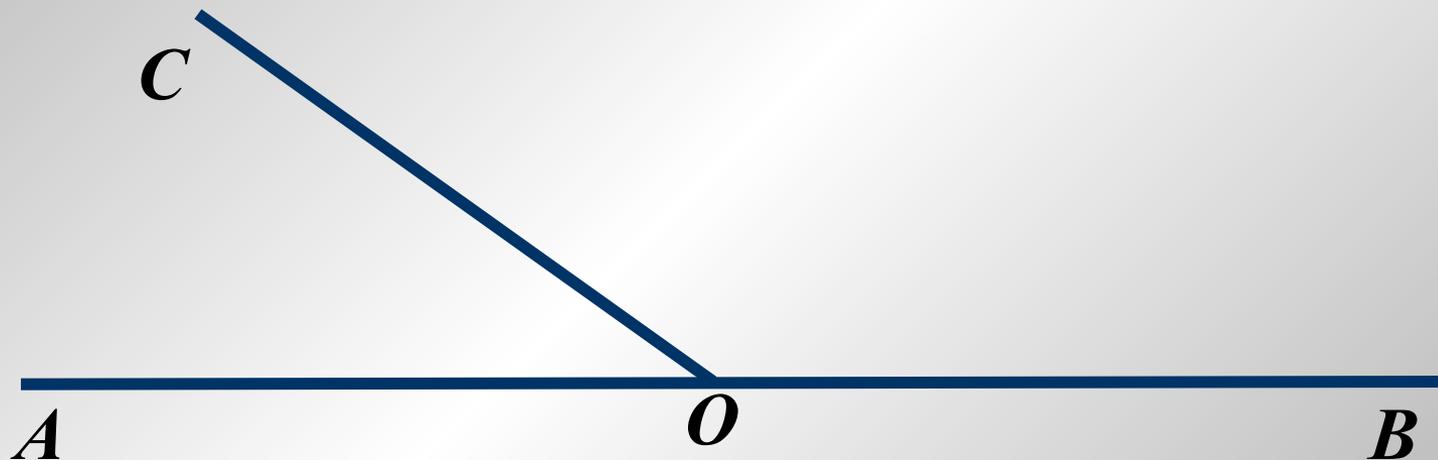
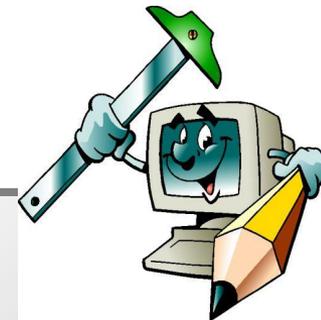
Ответ:



8.

Дано: $\angle BOC = \angle AOC + 90^{\circ}$

Найти: $\angle AOC, \angle BOC$



$$\angle AOC = 45^{\circ}$$

$$\angle BOC = 135^{\circ}$$

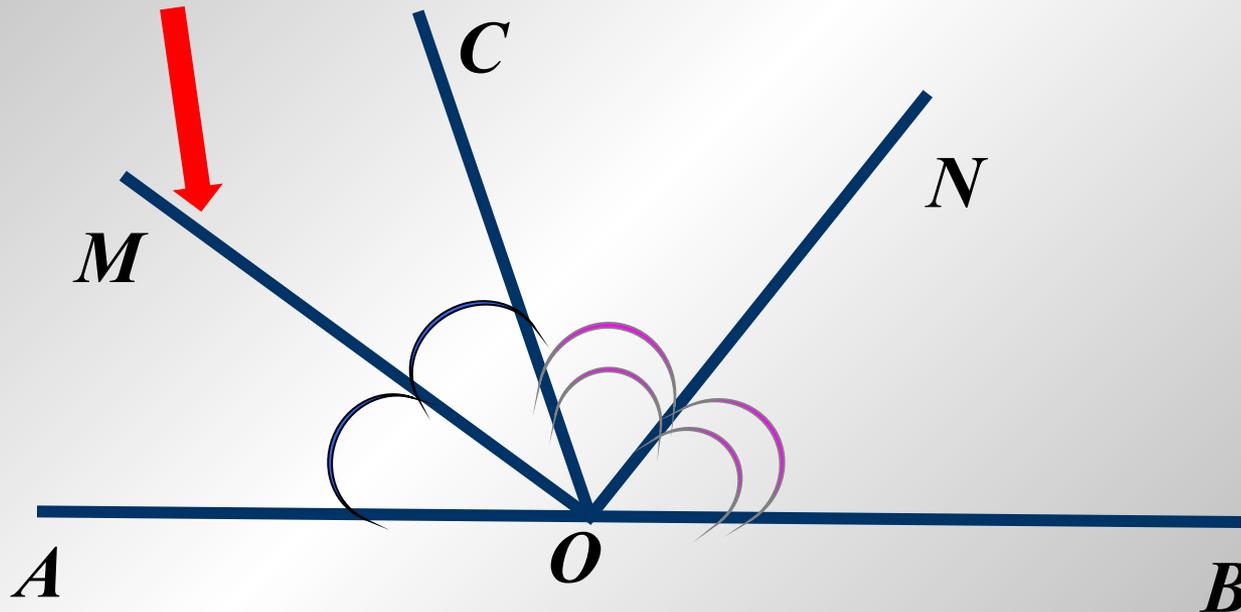
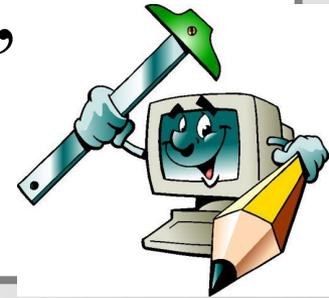
Ответ:



9.

Дано: $\angle AOC$, $\angle COB$ – смежные,
 OM – биссектриса $\angle AOC$,
 ON – биссектриса $\angle COB$

Найти: $\angle MON$



Ответ:

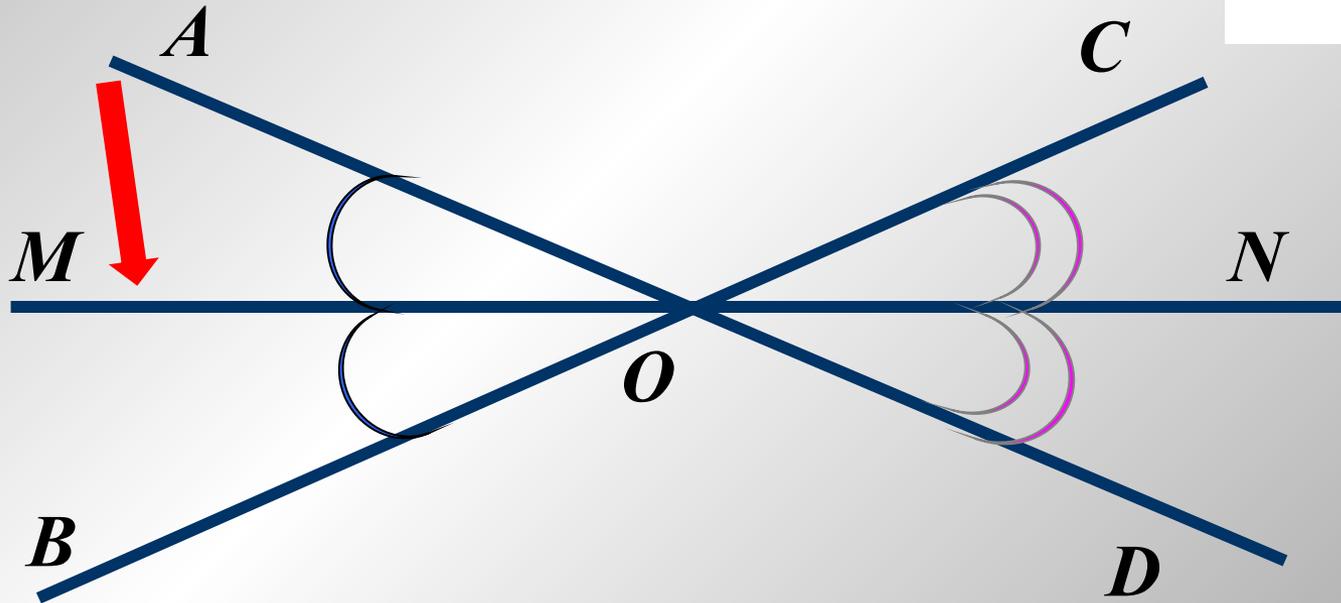
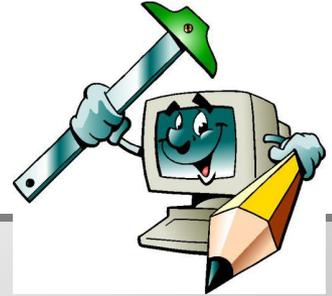
$$\angle MON = 90^{\circ}$$



10.

Дано: $\angle AOB$, $\angle COD$ – вертикальные,
 OM – биссектриса $\angle AOB$,
 ON – биссектриса $\angle COD$

Найти: $\angle MON$



Ответ:

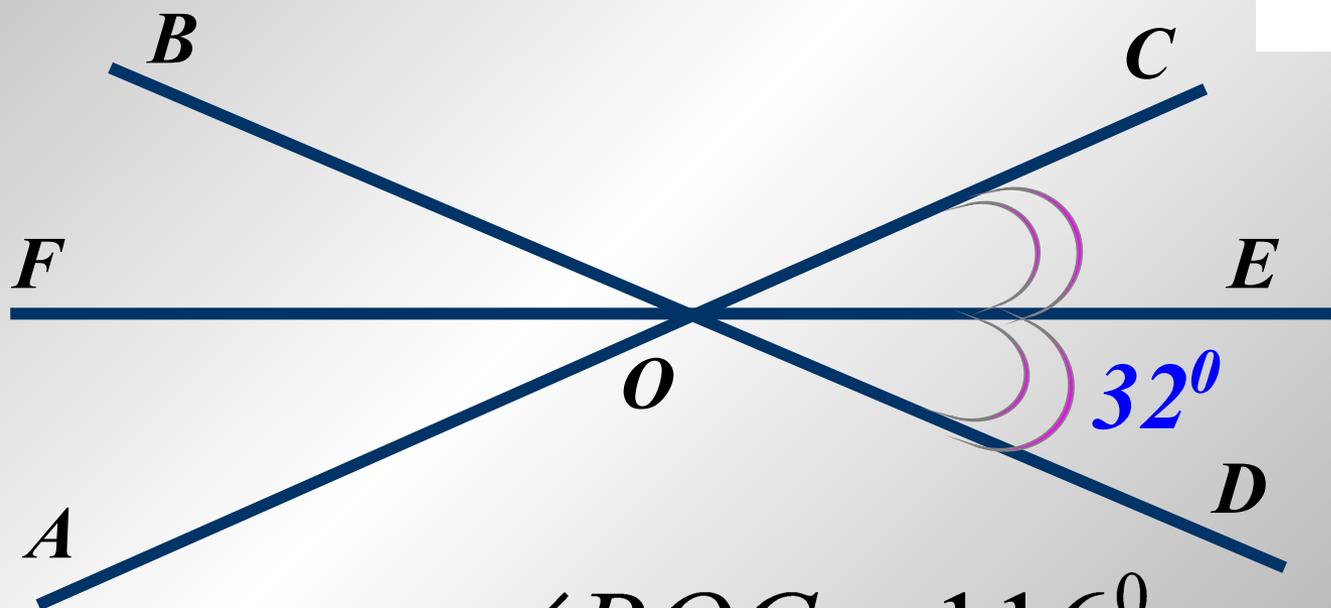
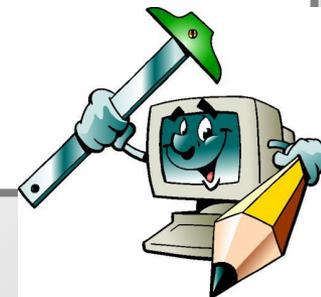
$$\angle MON = 180^{\circ}$$



11.

Дано: $\angle DOE = 32^\circ$
 OE – биссектриса $\angle COD$

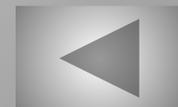
Найти: $\angle BOC$, $\angle AOF$



$$\angle BOC = 116^\circ$$

Ответ:

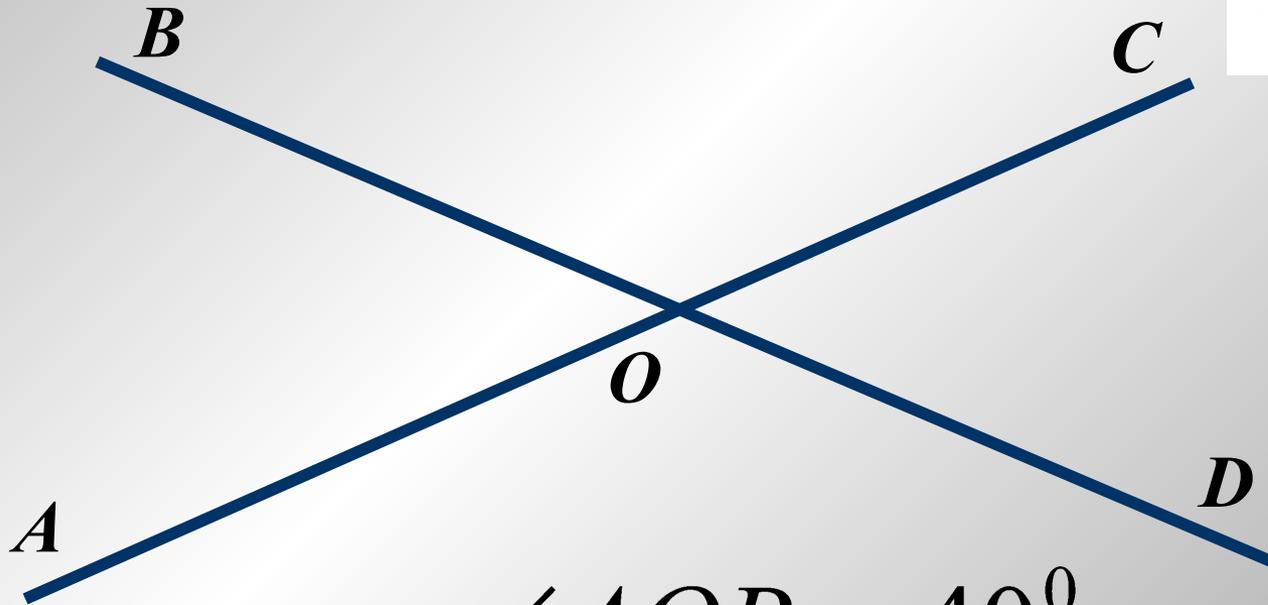
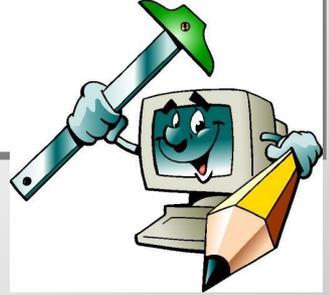
$$\angle AOF = 32^\circ$$



12.

Дано: $\angle AOB = \frac{1}{8}(\angle BOC + \angle COD + \angle DOA)$

Найти: $\angle AOB, \angle BOC$



$$\angle AOB = 40^{\circ}$$

Ответ:

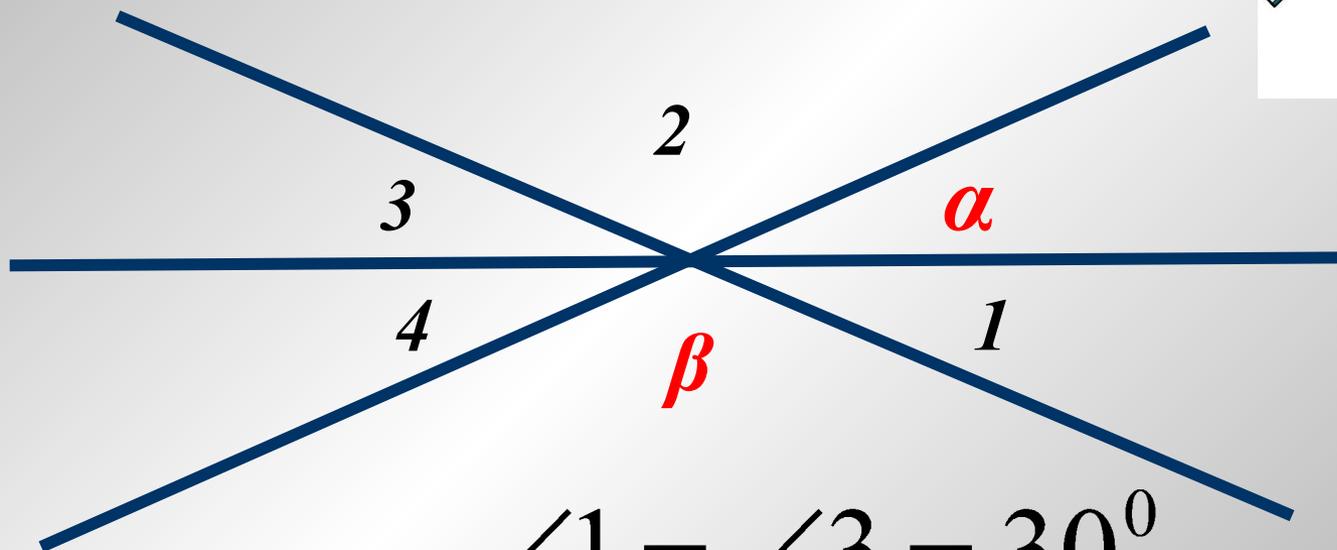
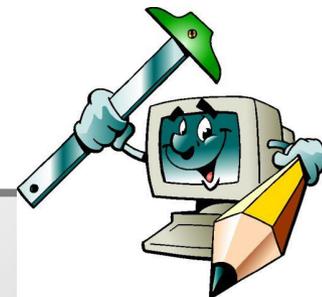
$$\angle BOC = 140^{\circ}$$



13.

Дано: $\alpha = 20^\circ$, $\beta = 130^\circ$

Найти: $\angle 1$, $\angle 2$, $\angle 3$, $\angle 4$

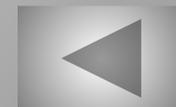


$$\angle 1 = \angle 3 = 30^\circ$$

$$\angle 2 = \beta = 130^\circ$$

$$\angle 4 = \alpha = 20^\circ$$

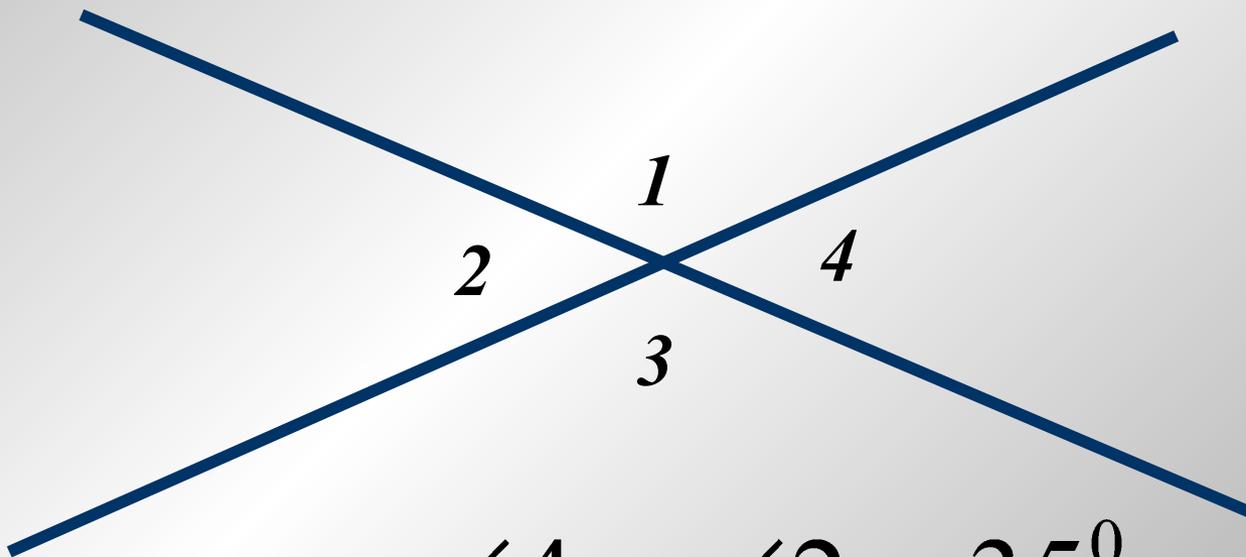
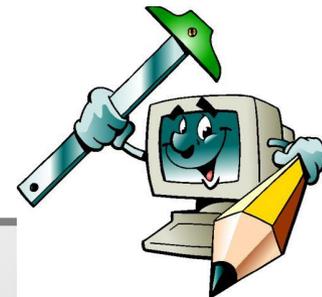
Ответ:



14.

Дано: $\angle 1 + \angle 2 + \angle 3 = 325^{\circ}$

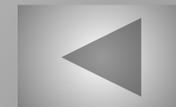
Найти: $\angle 1, \angle 2, \angle 3, \angle 4$



$$\angle 4 = \angle 2 = 35^{\circ}$$

Ответ:

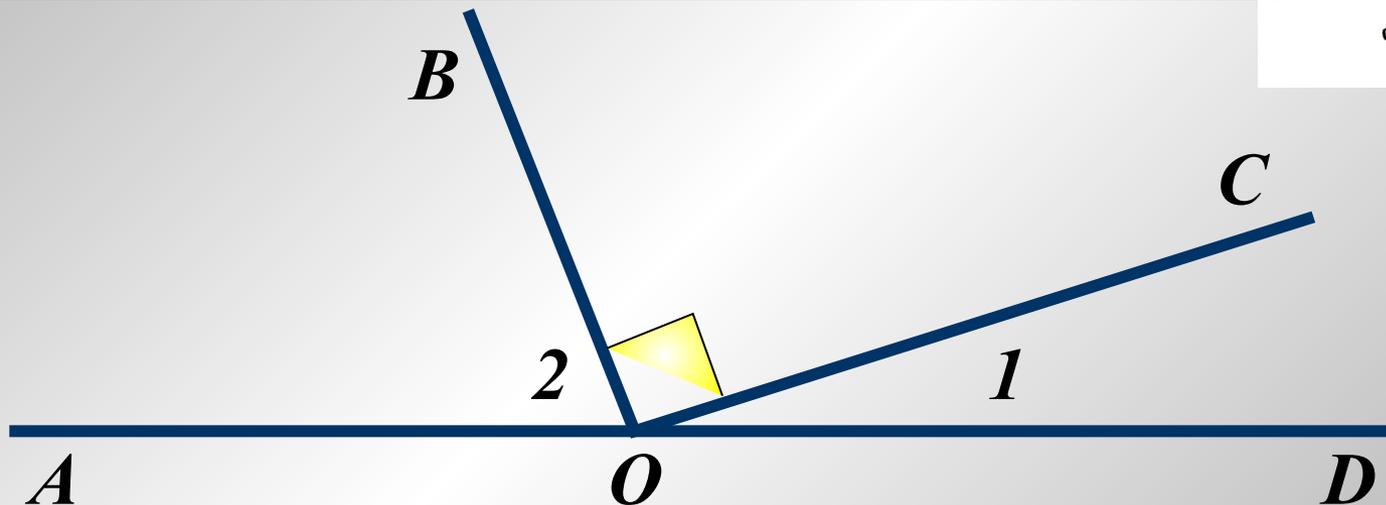
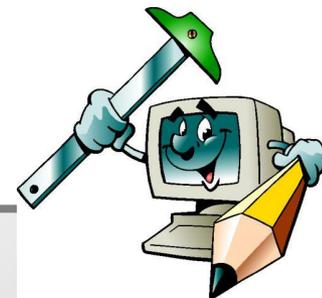
$$\angle 1 = \angle 3 = 145^{\circ}$$



15.

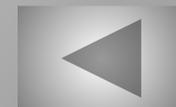
Дано: $\angle BOC = 90^\circ$, $\angle 2 = 70^\circ$

Найти: $\angle 1$



Ответ:

$$\angle 1 = 20^\circ$$



Используемые ресурсы:

1. Н.Ф.Гаврилова «Поурочные разработки по геометрии 7 класс. Универсальное издание. Москва «Вако» 2006г.

2. Картинка:

http://www.biodat.ru/text/Podgotovka_k_EGE_1.html

