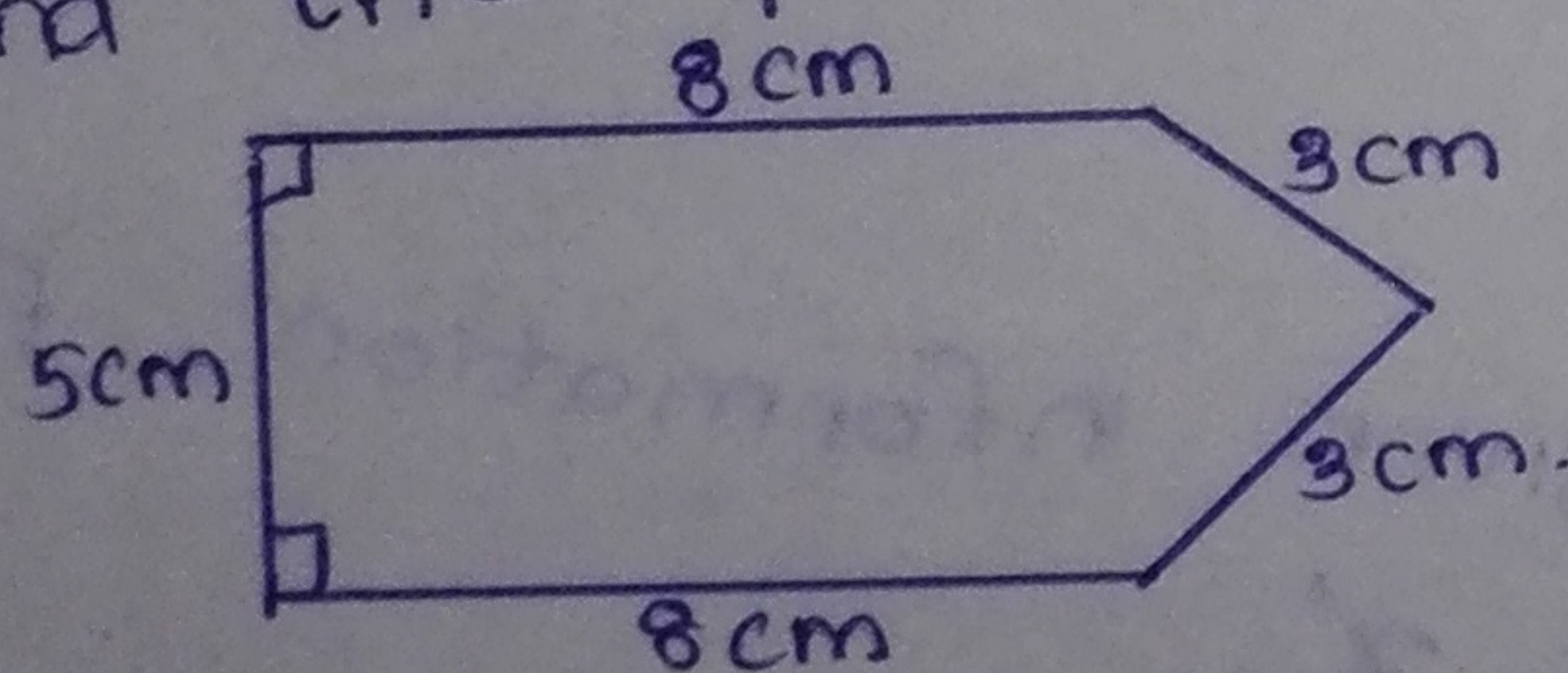
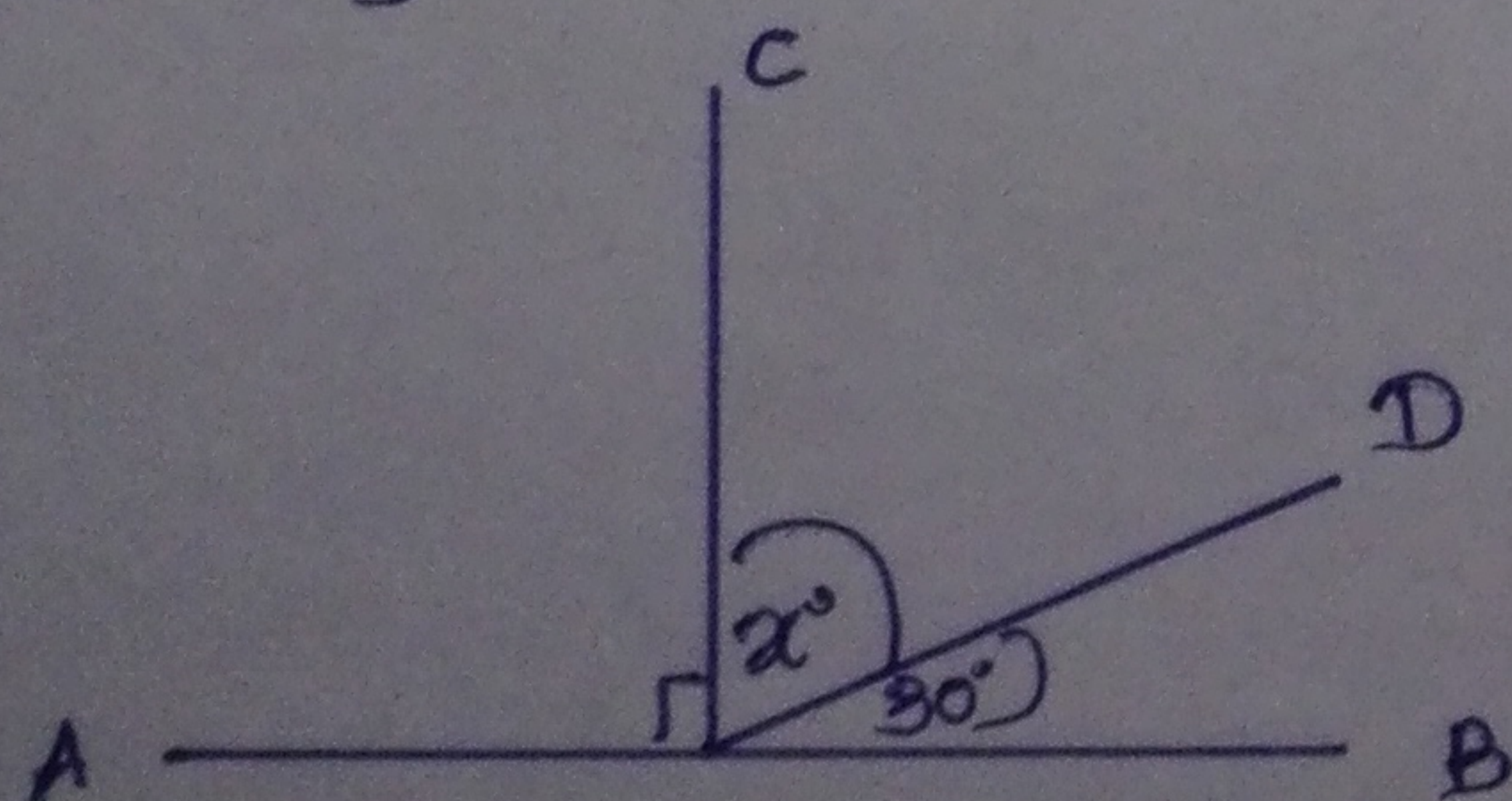


Part I

- ① Simplify. $3(x - 4y) - (x + 2y)$
- ② Find the factors of $4x^2y + 16xy^2$.
- ③ Find $\sqrt{289}$
- ④ Express 75 kg in metric tons.
- ⑤ Simplify. $\frac{(2m)^2}{(3n)^2}$
- ⑥ Simplify. $(5a)^2$.
- ⑦ Solve. $2x + 3 = 7$.
- ⑧ i) What is the complement of 82° ?
ii) What is the supplement of 82° ?
- ⑨ Find the value of $\sqrt{2^2 \times 3^2}$.
- ⑩ Perimeter of a square is 24 cm. Find the length of a side of it.
- ⑪ A lorry was loaded with 5t of rice. 2t 750 kg of rice was unloaded from the lorry. What is the mass of rice remaining in the lorry.
- ⑫ Are the two values $(-5)^{12}$ and $(+5)^{12}$ equal? Give reasons.
- ⑬ Solve the equation. $2(x - 3) = 14$.
- ⑭ Find the perimeter of the figure.



- ⑮ In the figure AB is a straight line. Find the value of x° .



Part II

- ① i) Simplify. $3(2x+1) + 2(x-5)$
 ii) Factorize. $10a^2 + 15ab - 5ab^2$
 iii) $a = 4$, $b = 2$, find the value of $10a^2 + 15ab - 5ab^2$.

- ② i) Find factors. $ax + ay + 3x + 3y$.
 ii) Solve. $3x - 4 = x + 2$.
 iii) Find the value.

a) $\frac{a^4 \times a^3}{a^5 \times a}$

b) $(x^2)^3 \div (x^3)^2$

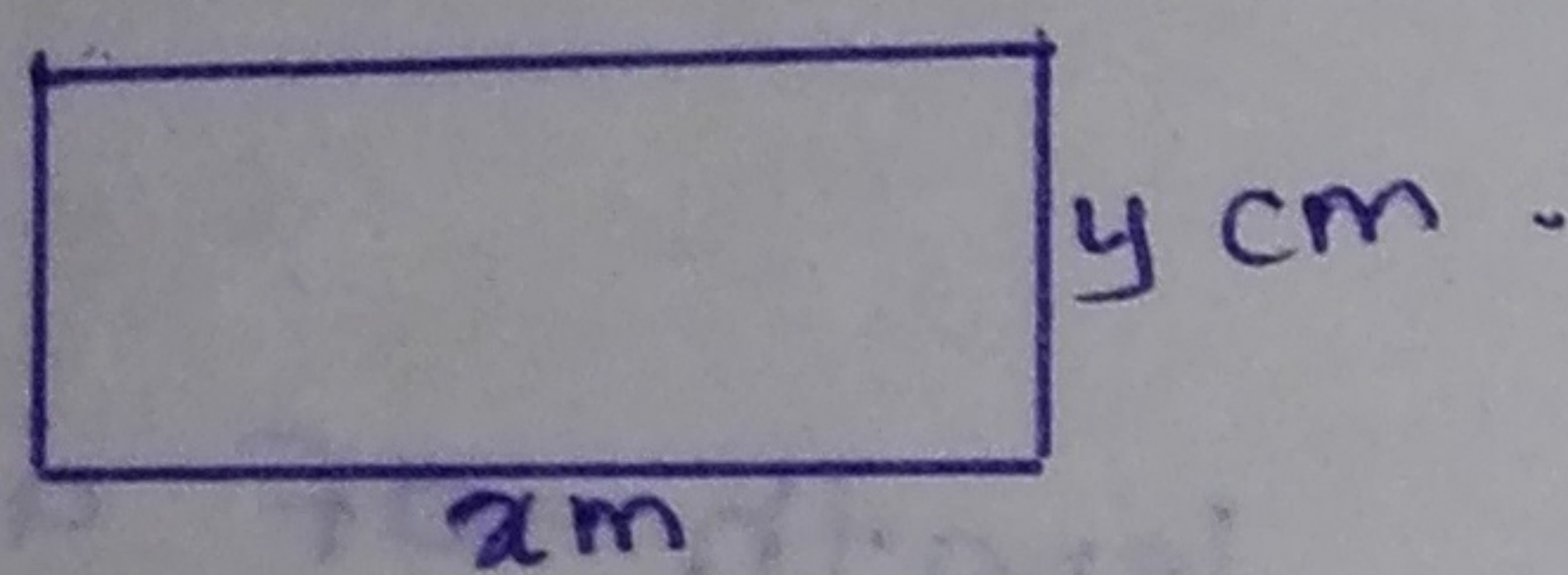
Simplify.

③ i) $2x(x+3)$

ii) $-5(x+3)$

iii) $(2x-5)(x+3)$

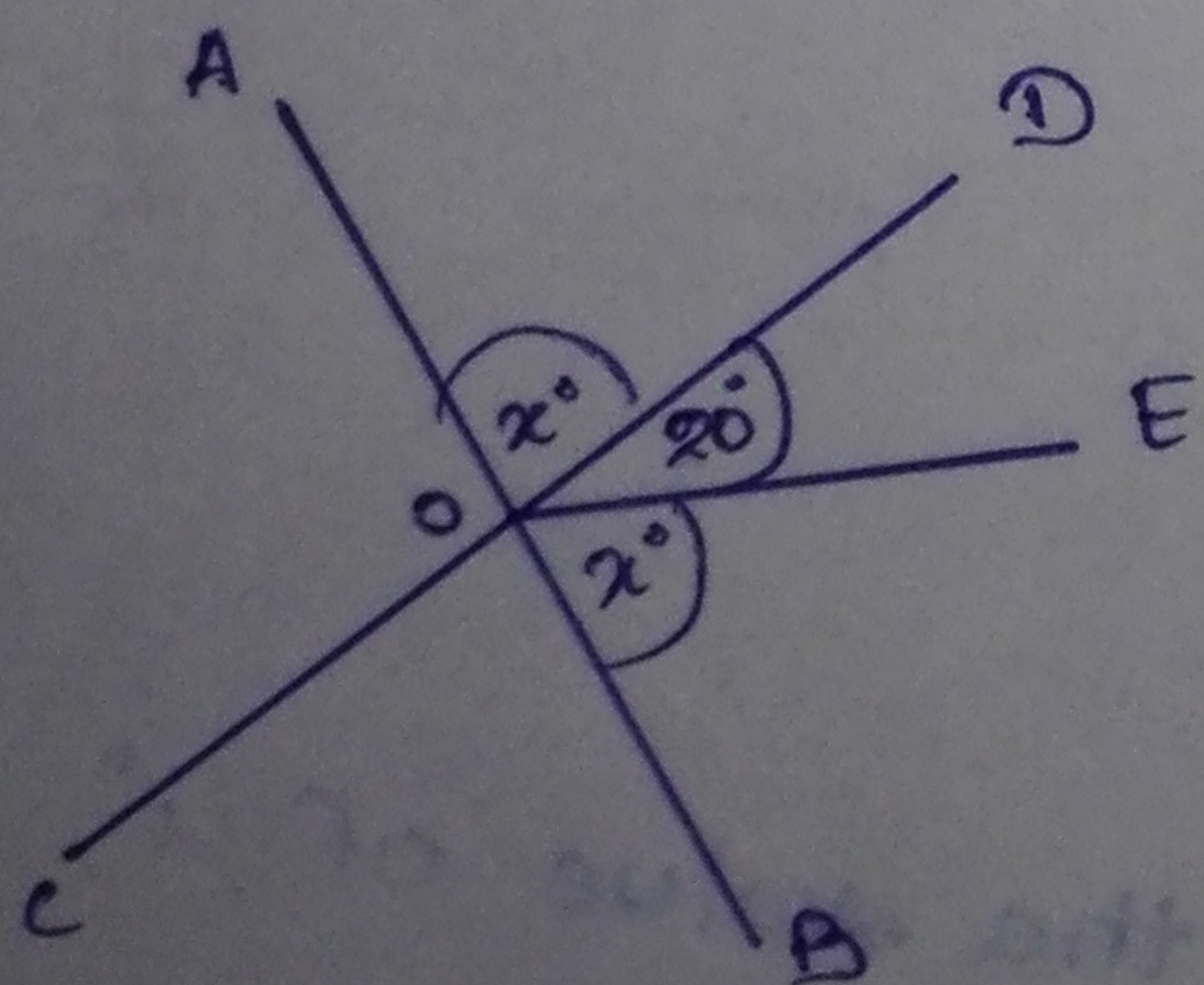
- ④ Length of a rectangular flower bed is x m and width is y cm.



- i) Indicate the length in cm.
 ii) What is the perimeter of the flower bed?
- ⑤ a) Sanath is 6 years elder than Madawa.
 i) If Madawa is p years old, write the age of Sanath using p .
 ii) Twice of Sanath's age is similar to thrice of Madawa's age. Indicate the connection in an equation.
 iii) Solve it and find Sanath's age.

b) Solve. $(3x + 7y) - 2(x + 2y)$

- ⑥ AB and CD are straight lines.



- i) Write a pair of vertically opposite angles.
 ii) Name the supplementary adjacent angle of $\angle AOD$.
 iii) According to the given information, find the magnitude of x° .

GRADE 08
MATHEMATICS

First Term - Revision.

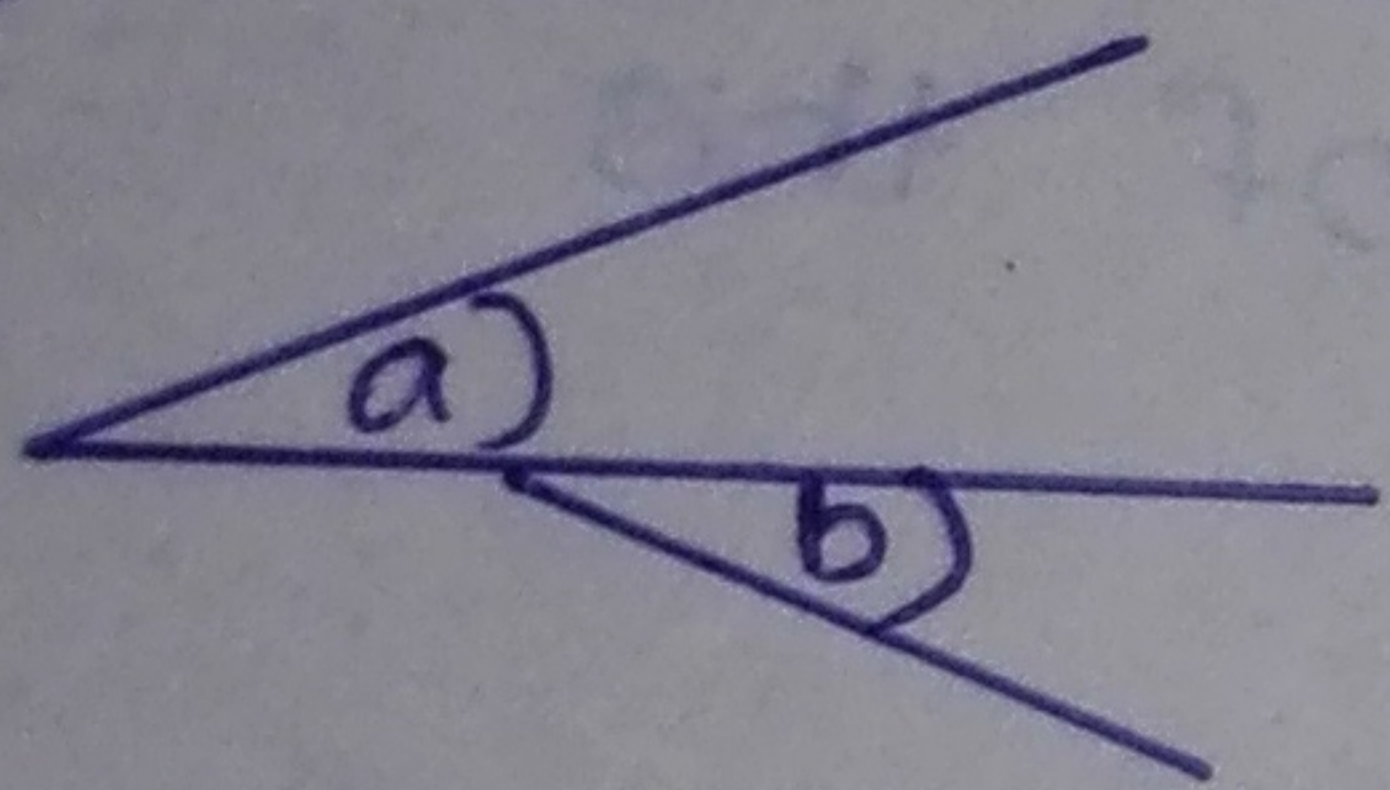
Part I

① Fill in the blanks.

Euler's Relationship is given by the formula,

Number of faces + _____ = _____ + 2.

② Is a and b a pair of adjacent angles? Give reasons.



③ Find the value of $(-3) + (+7)$

④ Perimeter of a square shaped flower bed is 12 m. Find the length of a side of it.

⑤ Write the suitable number. $27 = 3 \square$

⑥ What is the magnitude of complementary angle of 65° ?

⑦ What is the 4th triangular number?

⑧ Simplify. $2(x+5)$

⑨ Neela said that 448 is not a square number. Is she correct? Give reasons.

⑩ Nimal weighs 60 kg. Nimal is twice the weight of Kamal's weight. Amal weighs more than Nimal. Who weighs the least and the most?

PART II

① a) When a number is multiplied by three and five is added the answer is 35.

i) Get x as that number and construct a simple equation.

ii) Solve the equation and find the value of x .

b) If $a = 2$, find the value of the expression $42 - 2a$

② 1, 3, 6, 10, ... is a number pattern.

i) What is the name of this number pattern?

ii) Write the 5th and 6th terms of this pattern.

iii) Write an expression for the n th term of this

③ i) Write 784 as a product of prime factors.

ii) Find the value of $\sqrt{784}$

④ Solve the equations.

i) $2(x-4) = 4$

ii) $4(5-x) = x$

⑤ Fill in the blanks.

$$\frac{2(2x-1)}{3} = 6$$

$$\boxed{} = \boxed{}$$

(Multiplying both sides by 3)

$$2(\boxed{}) = 18$$

$$\frac{2(\boxed{})}{2} = \frac{18}{2}$$

$$\boxed{} = \boxed{}$$

$$\boxed{} = \boxed{}$$

(Adding 1 to both sides)

$$\boxed{} = \boxed{}$$

$$\frac{\boxed{}}{2} = \frac{\boxed{}}{2}$$

(Dividing both sides by 2)

$$x = \boxed{}$$

$$= \boxed{}$$

⑥ i) Solve. $5x + 2 = 22$.

ii) Factorize $3p^2q - 6pq^2 + 12pq$.

iii) Solve. $\frac{3(5-4x)}{2} = 9$.

PART 2

❖ Answer all the questions.

1) A) Answer the following questions using the knowledge of binary numbers.

1. How many digits are used in binary number system?
2. What are the digits used in binary number system?
3. Convert 11 into a binary number.
4. Represent the answer you obtained in question number (3) on an abacus in the binary number system.
5. What is the maximum number of digits can be used in a rod of an abacus in the binary number system.
6. 11101_{two} convert into a decimal number.

B) Simplify followings. 1) $1100_{\text{two}} - 111_{\text{two}}$

$$2) 1011_{\text{two}} + 11101_{\text{two}}$$

$$3) 1101_{\text{two}} + 111_{\text{two}} - 1011_{\text{two}}$$

2) A) 1. How much is $\frac{3}{5}$ of 1km.

2. Solve $(3\frac{1}{3} \div 2\frac{1}{6})$ of $\frac{1}{4}$

3. A person travels $\frac{2}{5}$ of a journey by bus, $\frac{1}{2}$ of it by a train and remaining of the journey by a three wheeler.

- 1) Find the total distance travelled by bus and the train.
- 2) Express the distance travelled by three wheeler as a fraction of the whole distance.
- 3) If the distance travelled by the three wheeler is 8km, find the total distance of the journey.

3) A) Factorize.

1. $3 + 3x - y - xy$

2. $4x^2 - 25y^2$

3. $a^2 - 3a - 40$

B) 1. Show that $(x-2)(x-3) = x^2 + x - 6$, when $x = 3$

2. Find the capacity of a cuboid shaped container which length 40cm, breadth 20cm and height 10cm. Express in terms of liters.

4) 1. Find the first three terms of a number pattern which general term is $3n-2$.

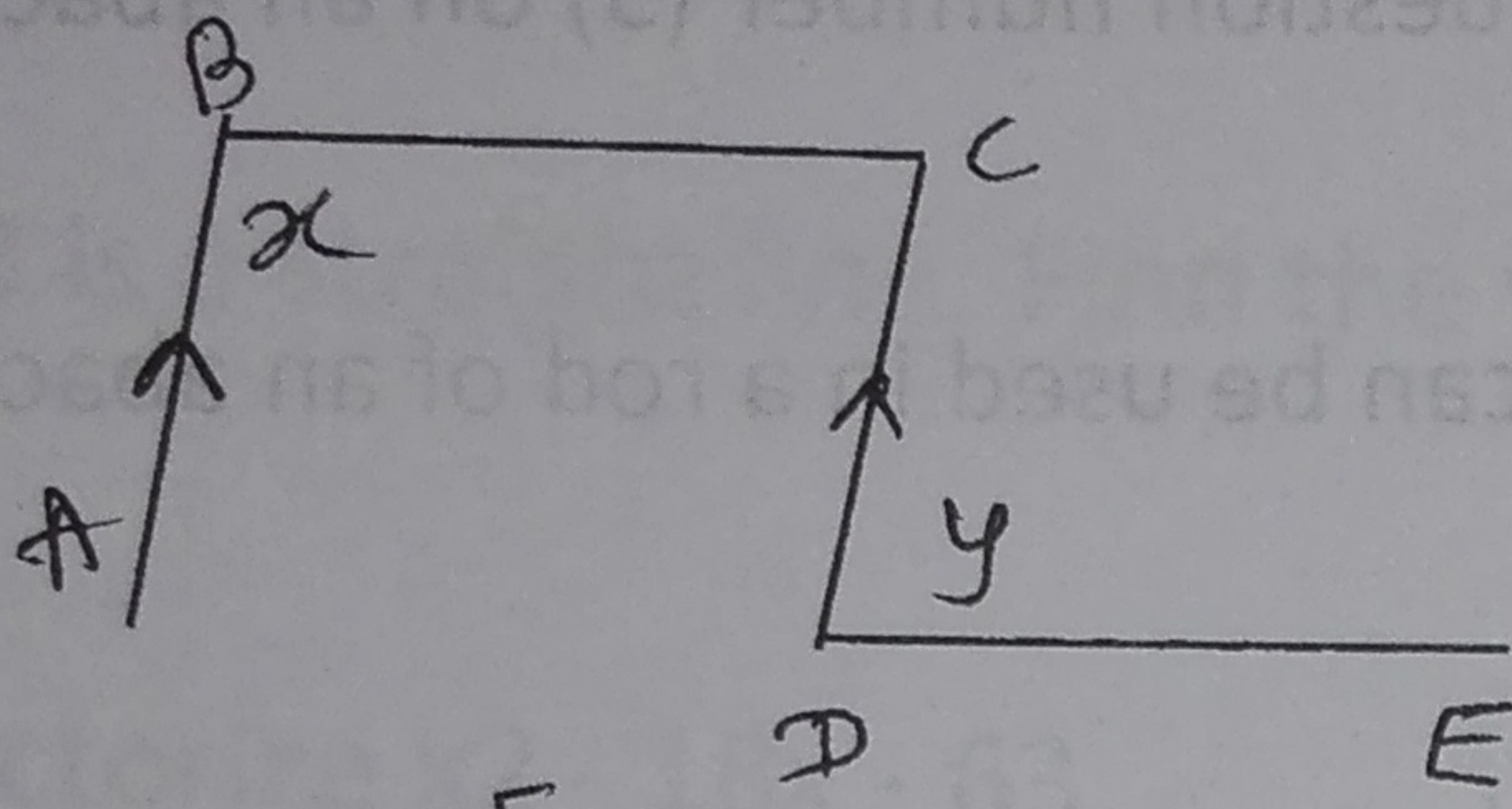
2. Which term is 100?

3. Find the 25th term of the pattern.

4. Show that 119 is not a term of this pattern.

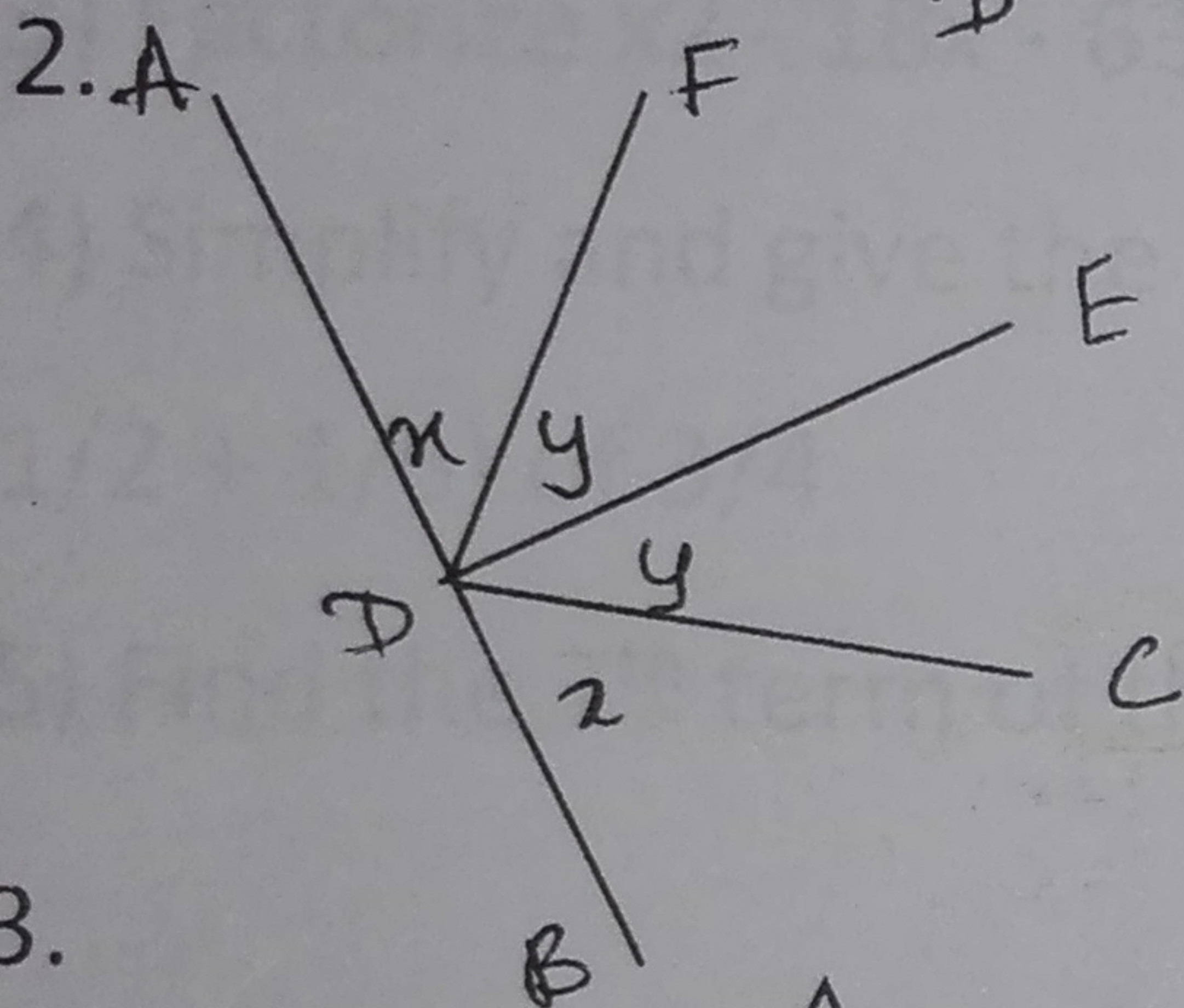
5. Represent the $(n+1)^{\text{th}}$ term of this pattern in terms of n .

5) 1.



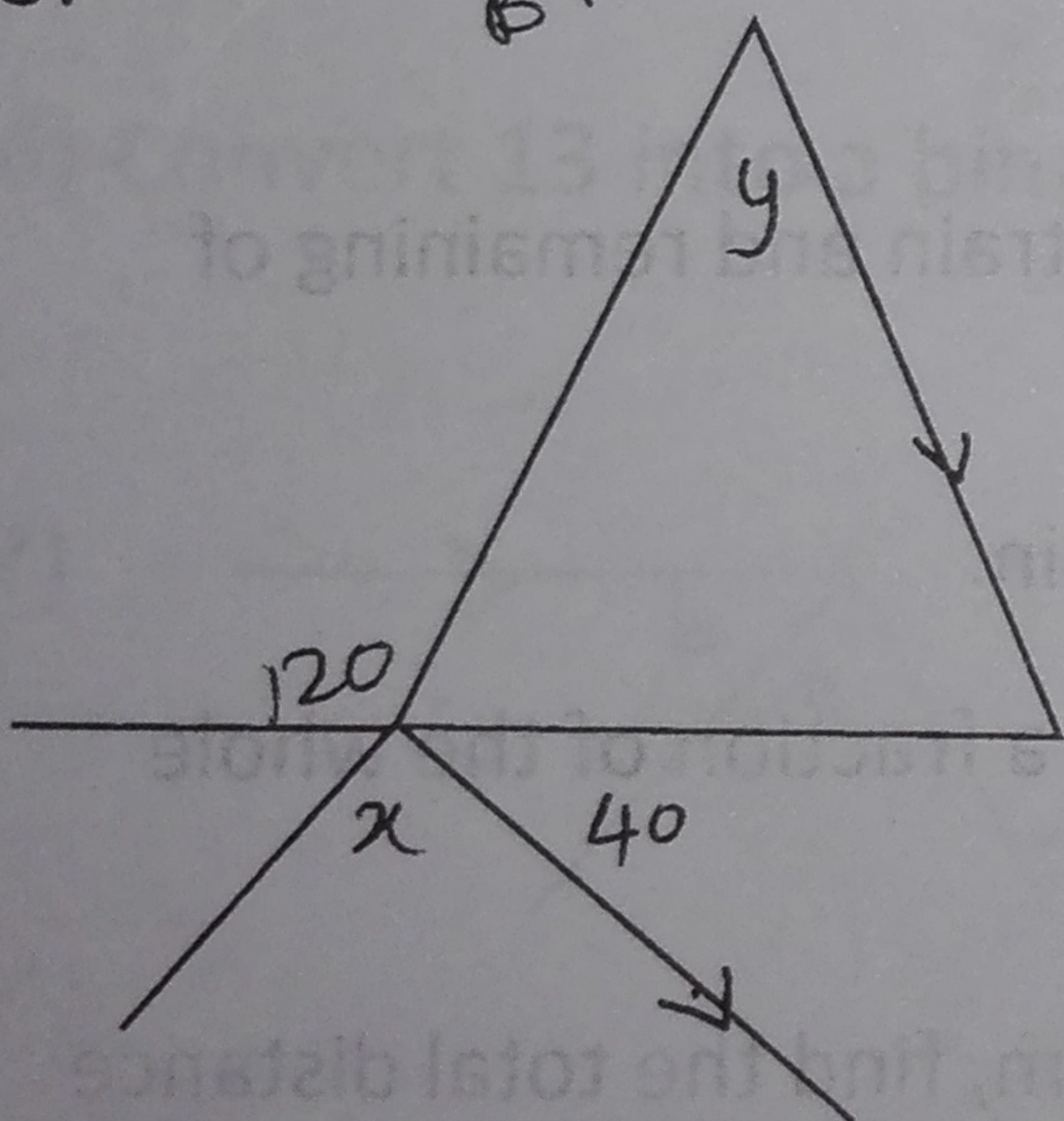
Show that $(x+y)$ is a right angle.

2. A



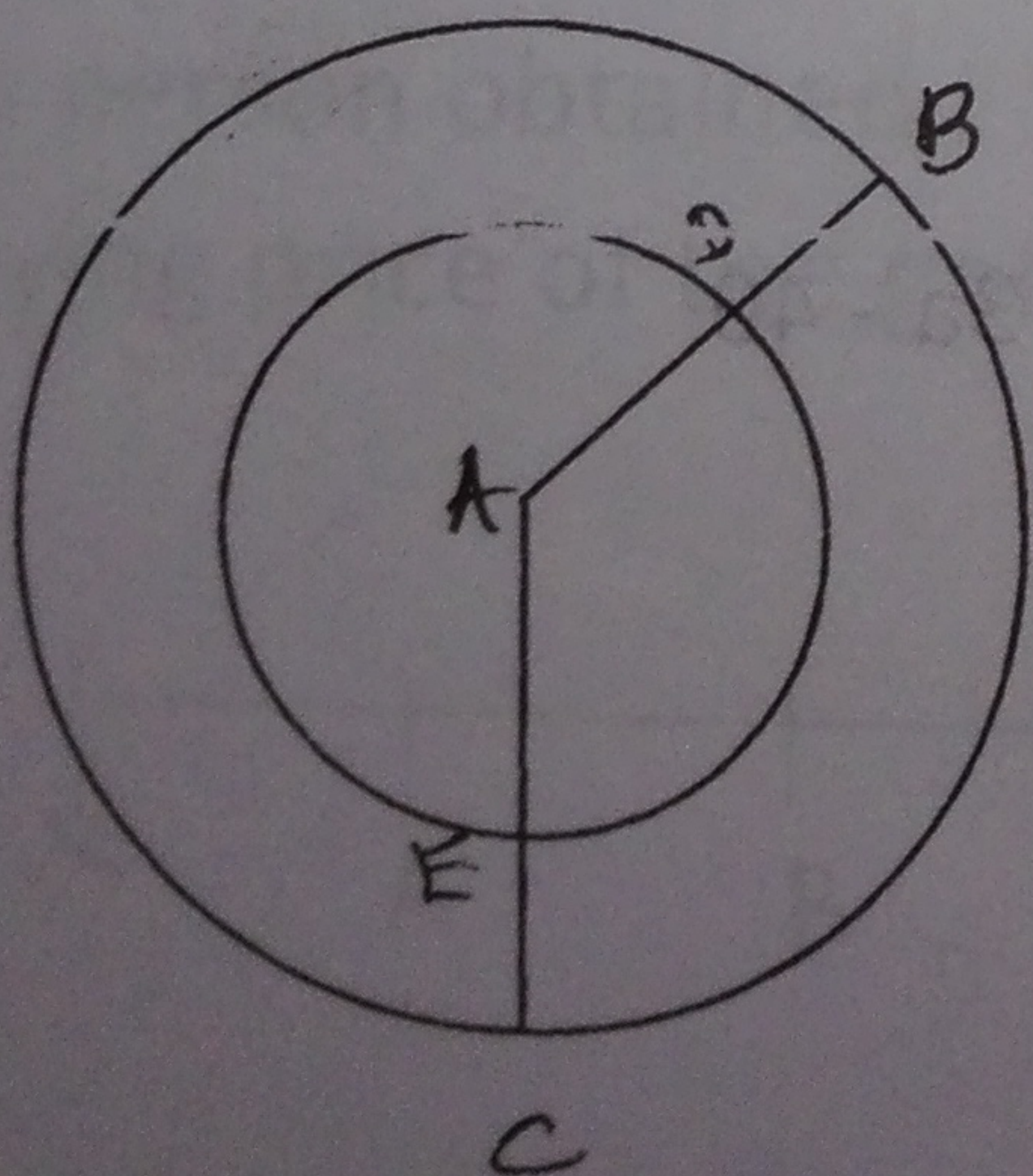
ADB is a straight line. Find the value of ADE

3.



Find the value of x and y .

4.



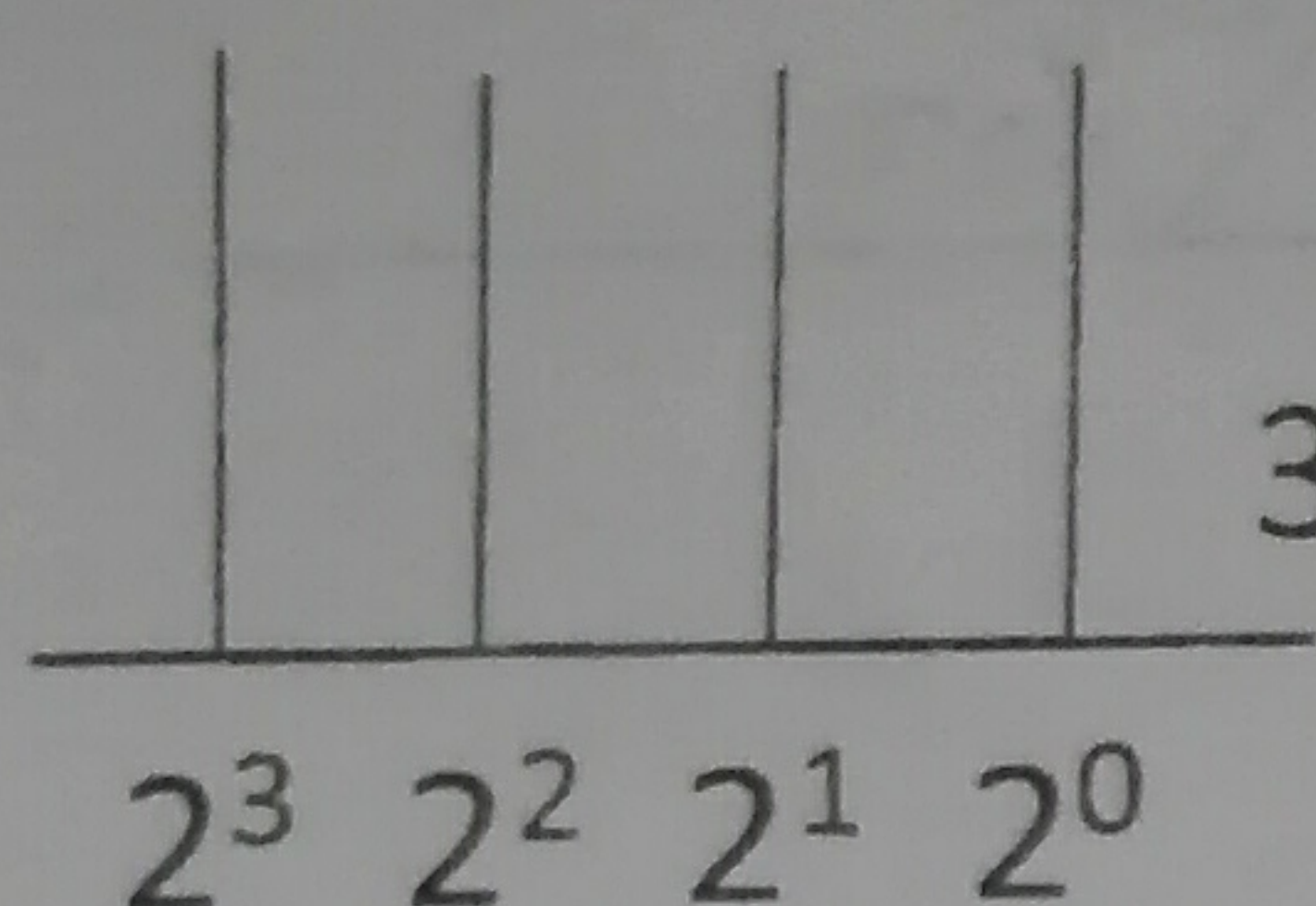
The diagram shows two concentric circles

Which Centre is A. Show that $BD = EC$

PART 1

1) Write the 2nd and 3rd terms of the number sequence which first term is 11 and the common difference is 4.

2) Represent the binary number 1101_{two} on an abacus.

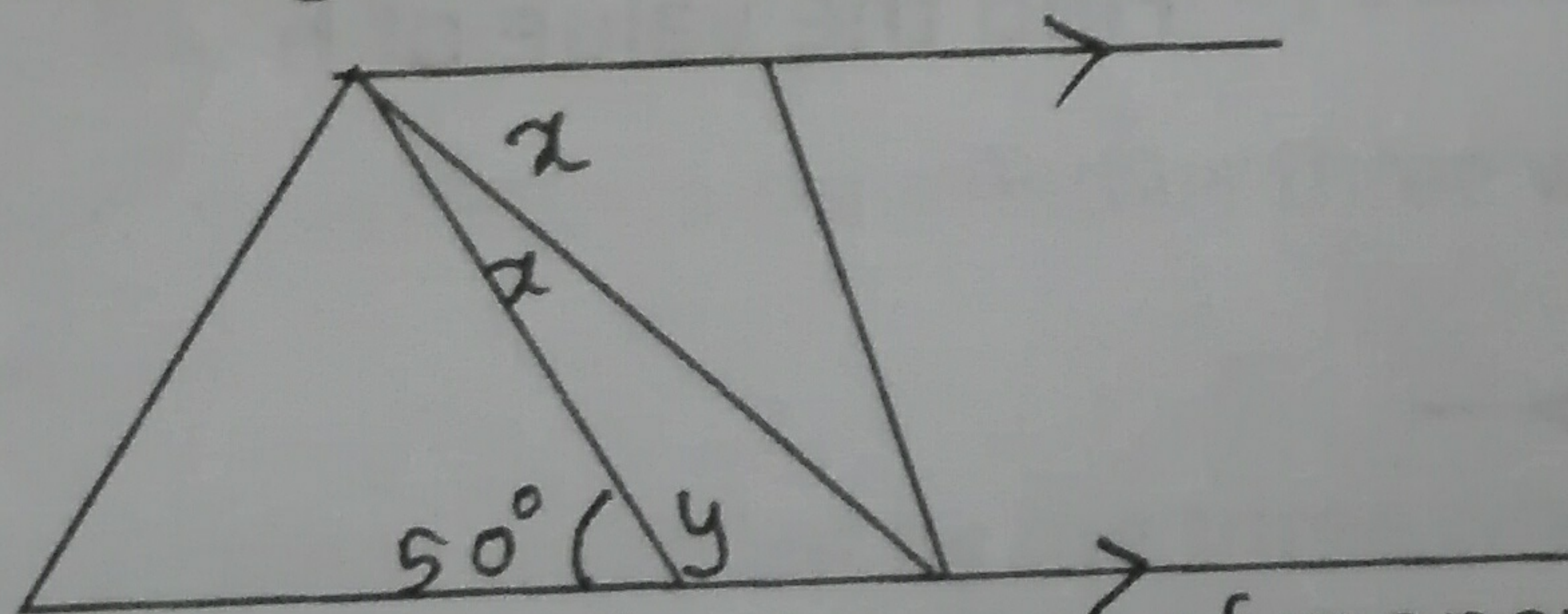


3) Simplify the two binomial expressions: $(x+3)(x+1)$

4) Find the value of $\frac{3x}{2} + 5$ when $x = 2$

5) Find the profit percentage when selling a good at 1500/= and receiving Rs.300 as a profit.

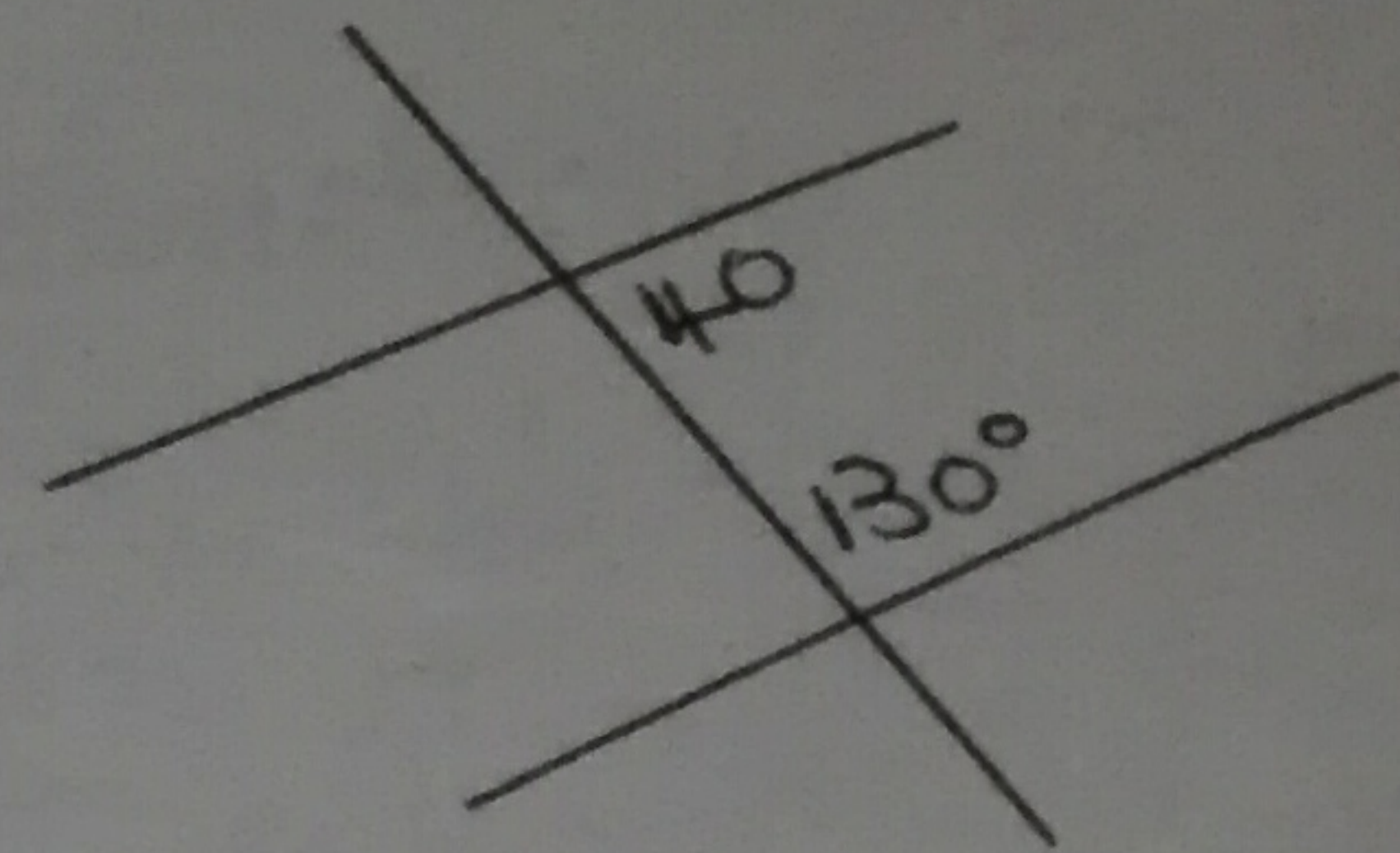
6) The following diagram AB and CD are a pair of parallel lines. AD, AE are straight lines. Find the value of x & y .



7) If $\frac{1}{5}$ of a certain amount of money is Rs.300, find the amount of money.

8) How many number of times need to be poured from 25ml cup to fill a container which capacity is 3L?

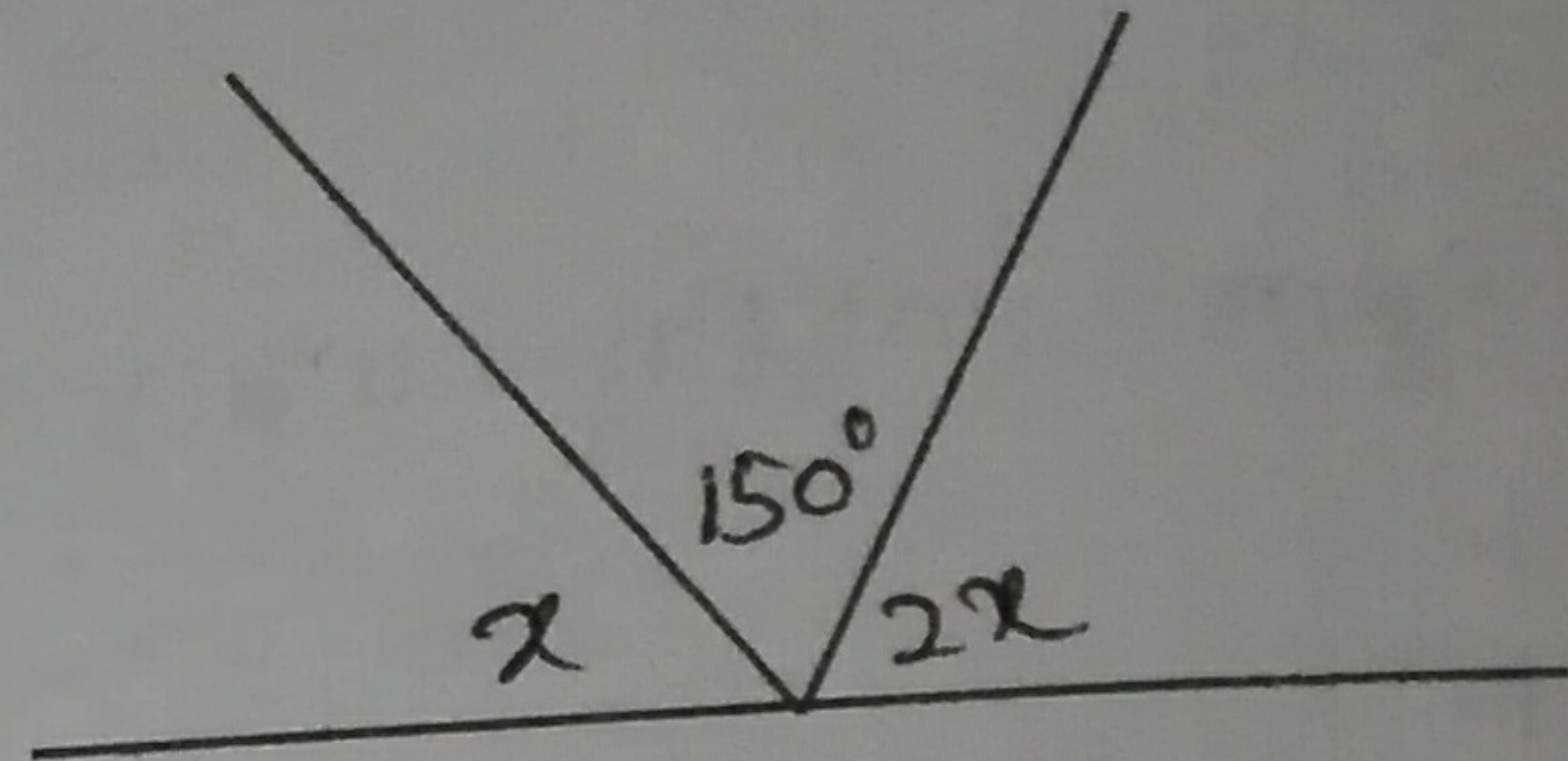
9) Are PQ and RS lines parallel? Give reasons.



10) Find the value using the knowledge of factors. $7.6^2 - 2.4^2$

11) Find the worth of the land if a person is received Rs.40 000 as 2% commission by selling a certain land.

12) AB is a straight line. Find the value of x.



13) Factorize $x^2 - 18x - 63$

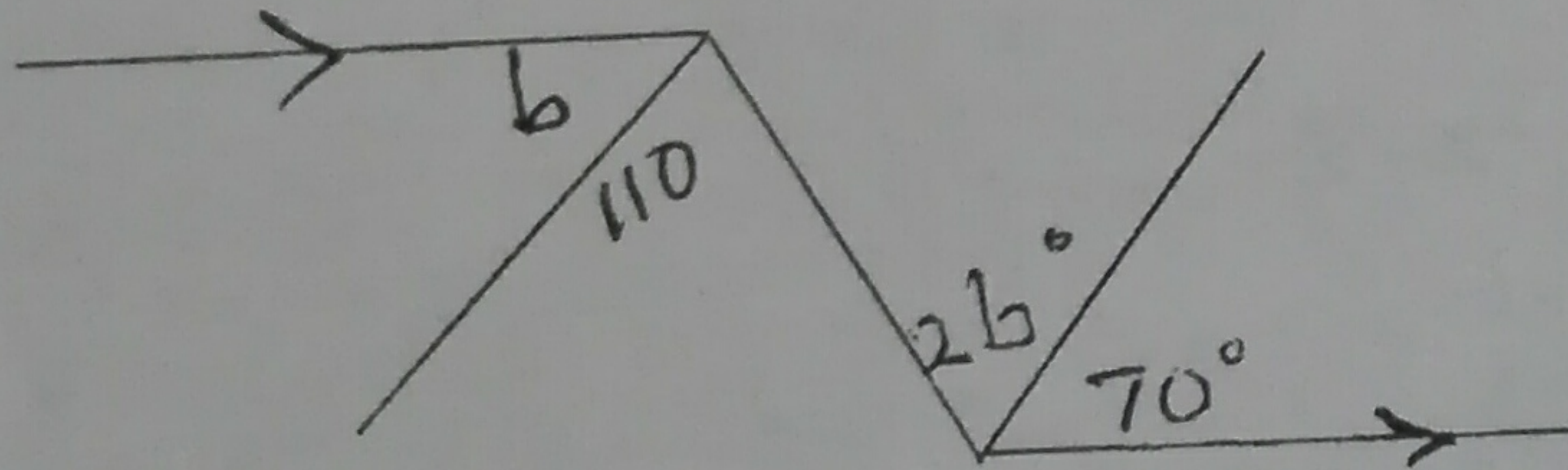
14) Simplify and give the answer in the simplest form.

$(\frac{1}{2} + \frac{1}{6})$ of $\frac{3}{4}$

15) Find the 7th term of the pattern $3n+5$

16) Convert 13 into a binary number.

17)

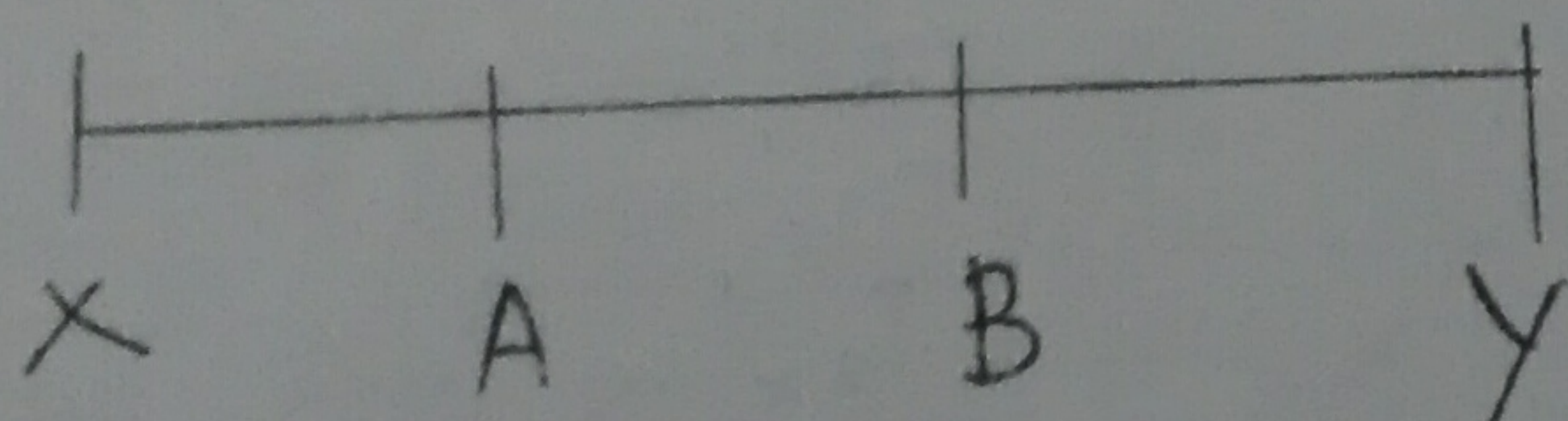


Find the value of b°

18) Solve $3x - 1 = 26$

19) If a person obtained 25% profit by selling a good at Rs.250. Find the buying price of the good.

20)



Show that $XA = YB$ if $XB = AY$