

Ex 7.1

1① $A(2,3), B(4,1)$

$$AB = \sqrt{(4-2)^2 + (1-3)^2}$$

$$= \sqrt{2^2 + (-2)^2}$$

$$= \sqrt{4+4}$$

$$= \sqrt{8}$$

$$= \sqrt{2 \times 2 \times 2}$$

$$= 2\sqrt{2}$$

1② $A(-5,7), B(-1,3)$

$$AB = \sqrt{(-1+5)^2 + (3-7)^2}$$

$$= \sqrt{4^2 + (-4)^2}$$

$$= \sqrt{16+16}$$

$$= \sqrt{32}$$

$$= \sqrt{2 \times 2 \times 2 \times 2 \times 2}$$

$$= 2 \times 2 \sqrt{2}$$

$$= 4\sqrt{2}$$

1③ $A(a,b), B(-a,-b)$

$$AB = \sqrt{(-a-a)^2 + (-b-b)^2}$$

$$= \sqrt{(-2a)^2 + (-2b)^2}$$

$$= \sqrt{4a^2 + 4b^2}$$

$$= \sqrt{4(a^2 + b^2)}$$

$$= \sqrt{2 \times 2 (a^2 + b^2)}$$

$$= 2\sqrt{a^2 + b^2}$$

2. $A(0,0), B(36,15)$

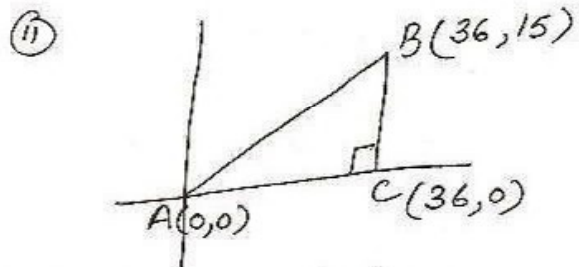
$$AB = \sqrt{(36-0)^2 + (15-0)^2}$$

$$= \sqrt{36^2 + 15^2}$$

$$= \sqrt{1296 + 225}$$

$$= \sqrt{1521}$$

$$= 39$$



distance between cities A and B

$$AB = \sqrt{(36-0)^2 + (15-0)^2}$$

$$= \sqrt{1521}$$

$$= 39 \text{ km}$$

3. $A(1,5), B(2,3), C(-2,-11)$

$$AB = \sqrt{(2-1)^2 + (3-5)^2}$$

$$= \sqrt{1^2 + (-2)^2}$$

$$= \sqrt{1+4}$$

$$= \sqrt{5}$$

$$BC = \sqrt{(-2-2)^2 + (-11-3)^2}$$

$$= \sqrt{16 + 196}$$

$$= \sqrt{212}$$

$$CA = \sqrt{(1+2)^2 + (5+11)^2}$$

$$= \sqrt{3^2 + 16^2}$$

$$= \sqrt{9 + 256}$$

$$= \sqrt{265}$$

$\therefore AB + BC \neq CA$
 \therefore not coll.