

Exerc 65 page 258

$$1. \quad AR = \sqrt{(2-2)^2 + (-1-4)^2}$$

$$AR = \sqrt{0^2 + (-5)^2}$$

$$AR = 5$$

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

$$CR = \sqrt{5^2 + 0^2}$$

$$CR = 5$$

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

$$BR = \sqrt{4^2 + 3^2}$$

$$BR = \sqrt{25}$$

$$BR = 5$$

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

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

$$= \sqrt{9+16} = \sqrt{25} = 5$$

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

$$= \sqrt{16+4}$$

$$= \sqrt{20}$$

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

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

$$BC = \sqrt{10}$$

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

$$= \sqrt{8^2 + (-4)^2}$$

$$= \sqrt{64+16}$$

$$= \sqrt{80}$$

$$AD = \sqrt{(5-2)^2 + (-5-4)^2}$$

$$AD = \sqrt{3^2 + (-9)^2}$$

$$AD = \sqrt{9+81}$$

$$AD = \sqrt{90}$$

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

$$= \sqrt{50}$$

$$BD = \sqrt{(5-(-2))^2 + (-5-2)^2}$$

$$BD = \sqrt{98}$$

$$AC \times AD = \sqrt{50} \times \sqrt{90}$$

$$= \sqrt{4500}$$

$$= 70$$

$$AB \times CD + BC \times AD = \sqrt{20} \times \sqrt{80} + \sqrt{10} \times \sqrt{90}$$

$$= \sqrt{1600} + \sqrt{900}$$

$$= 40 + 30$$

$$= 70$$

$$\text{Donc } AB \times CD + BC \times AD = AC \times AD$$