

BE-1B Monday 1-22-07

AHSGE Workbook

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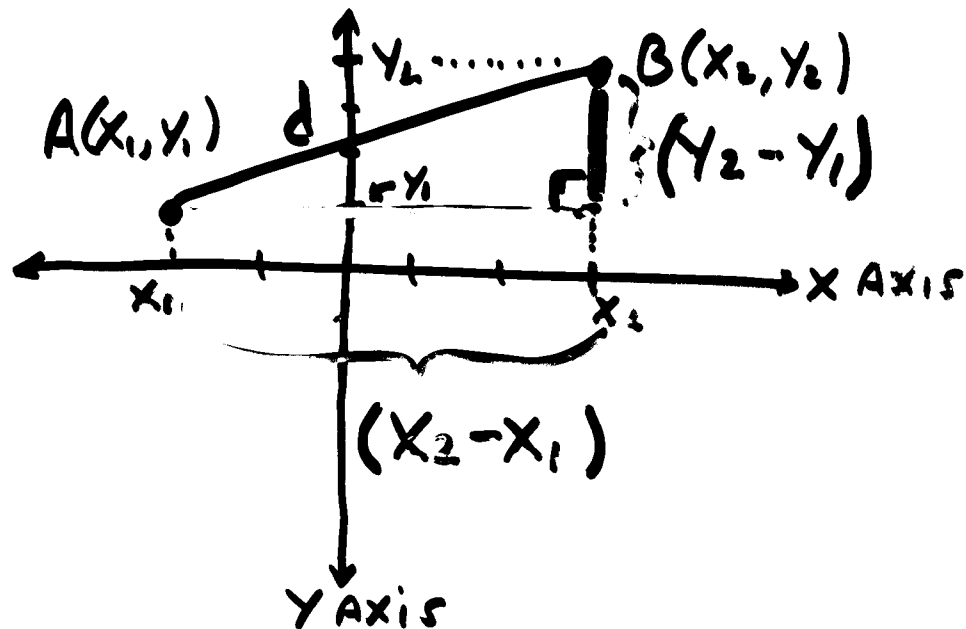
Ch. 11-5 The Distance Formula

①

distance (how far) between 2 points

Based on the coordinates of points on the X-Y plane AND THE PYTHAGOREAN THEOREM.

TAKE ANY 2 points, call point 1 "A" AND point 2 "B", their coordinates ARE then $A(x_1, y_1)$, $B(x_2, y_2)$. Graph.



$$d^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2$$

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

distance formula

EX1 Pg 611

Find distance between

$(2, 3), (-4, 6)$

x_1, y_1

x_2, y_2

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$d = \sqrt{(-4 - 2)^2 + (6 - 3)^2}$$

$$d = \sqrt{(-6)^2 + (3)^2}$$

$$d = \sqrt{36 + 9}$$

$$d = \sqrt{45} = \sqrt{9} \sqrt{5}$$

$$d = 3\sqrt{5}$$

EXACT

OR

$$d \approx 6.7 \text{ /units}$$

Approximate

CHECK WITH A GRAPH

Homework: • Read Ch. 11-5

• Pg 613 # 13-20

? (m/u quizzes, hand back work)?
