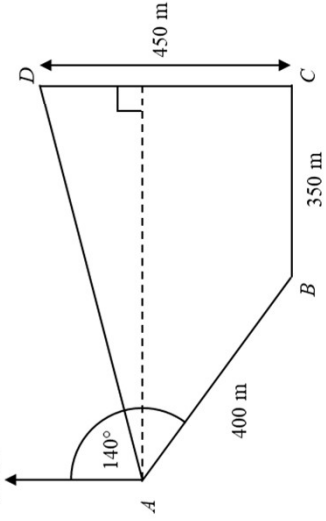


1

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The diagram shows a field $ABCD$.
The bearing of B from A is 140° .
 C is due east of B and D is due north of C .
 $AB = 400$ m, $BC = 350$ m and $CD = 450$ m.

(a) Find the bearing of D from B .

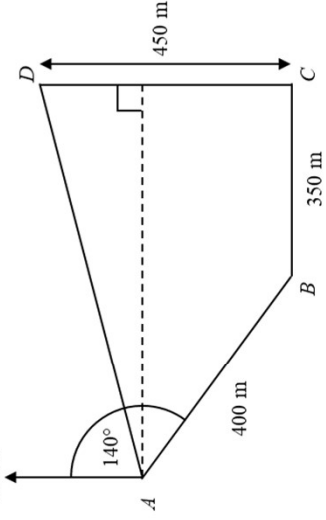
..... [2]

(b) Calculate the distance from D to A .

.....m [6]

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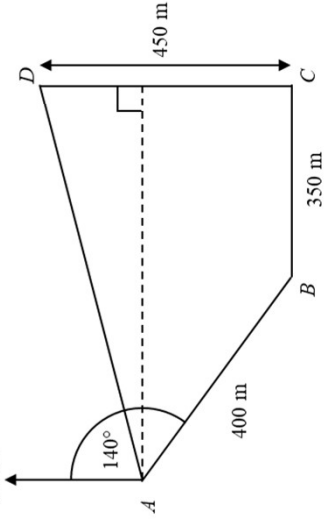
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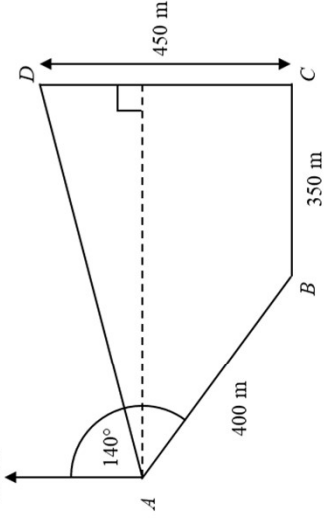
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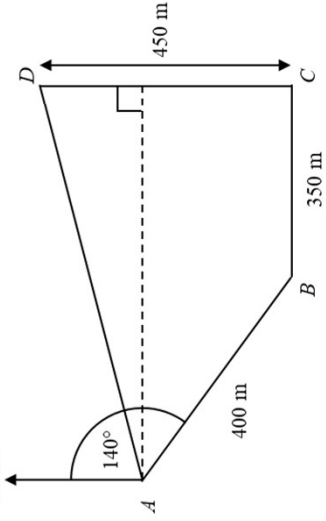
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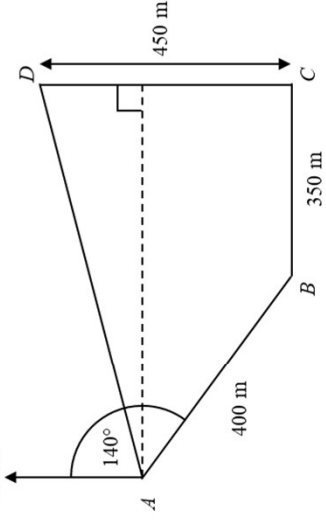
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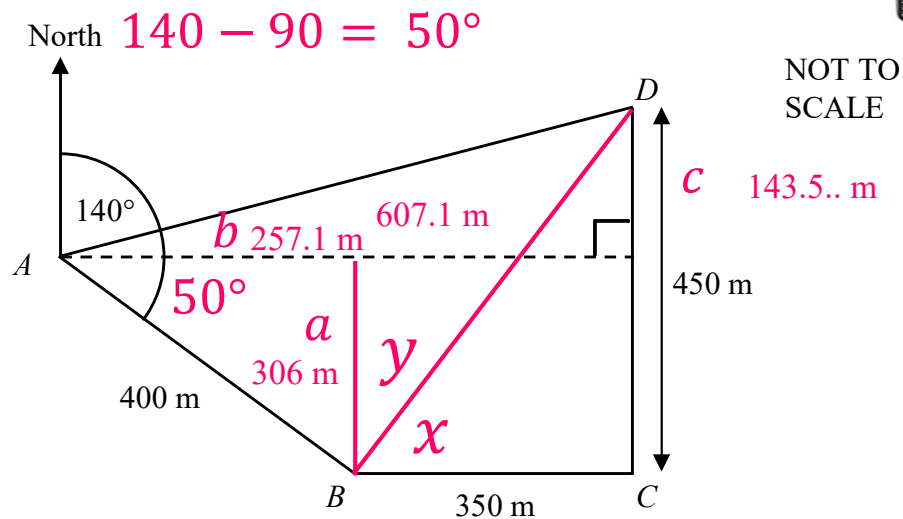
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.....m [6]



1



NOT TO SCALE

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(a) Find the bearing of D from B .

$$\tan x = \frac{450}{350}$$

$$x = 52.12 \dots$$

$$y = 90 - 52.12 \dots$$

$$y = 37.88 \dots$$

..... [2]

(b) Calculate the distance from D to A .

$$\sin 50 = \frac{a}{400}$$

$$\cos 50 = \frac{b}{400}$$

$$a = 306.4 \dots$$

$$b = 257.1 \dots$$

$$257.1 \dots + 350 = 607 \dots$$

$$c = 450 - 306.4 \dots = 143.5 \dots$$

$$AD = \sqrt{143.5^2 + 607.1^2}$$

..... 624 m [6]