Examiner Report:

Many candidates were confused by the change in units. Some stated that 1 cm =100 km while others thought 1 km = 1000 cm. Some of the candidates who correctly wrote down 1 km = 100,000 cm, however, got lost between conversions halfway due to messy or inconsistent working.

10 **Mark Scheme:**

(a) 33.7^o A1 **[1]**

(b) 46.2 (cm^2) A3 **[3]**

tan 30 = $\frac{6.1}{BC}$ seen M1

Correct evaluation of ABC: 32.1 to 32.3 cm^2 A1

Correct method of evaluating area ACX: $\frac{1}{2}\times\frac{1}{2}\times 6.1\times\sqrt{11^2-6.1^2}$

and correct evaluation of ACX: 13.95 to 13.96 cm^2 A1

Suggested Solution:

(a) $\sin A\hat{D}C = \frac{6.1}{11} \Rightarrow A\hat{D}C = 33.7^o$ (ans)

(b) Area of ACX = $\frac{1}{2}\times$ Area of ACD = $\frac{1}{2}\times\frac{1}{2}\times 6.1\times\sqrt{11^2-6.1^2}$ = 13.96 cm^2 (ans)

$\tan 30° = \frac{6.1}{BC} \Rightarrow$ BC = 10.57 cm

Area of ABC = $\frac{1}{2}\times 10.57\times 6.1 = 32.22$ cm^2

Total area = 13.96 + 32.22 = 46.2 cm^2 (ans)

Examiner Report:

(a) This part was well answered by most candidates.

(b) This part tested even the most able. While most were able to calculate BC and hence ABC, few recognized that the area of ABX is half of ABD.

11 **Mark Scheme:**

(a) $3y = \frac{1}{2}x + 7$ oe A2 **[2]**

Accept $3y = \frac{1}{2}x + c$ with $c = 7$ seen in working

Gradient found: $\frac{1}{6}$ A1