

MTH 202 - Quiz 2

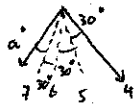
18 September 2015

Name: Solutions

Show all your work to receive full credit on the following problems; carefully organize your solutions so that the work is clear. No calculators or other electronic devices are allowed on this quiz.

1. (4 + 4 + 4 = 12 points) For each of the following times of day, sketch a clock face showing that time and find the measure (in degrees) of the angle formed by the hour and minute hands. (Remember that the hour hand moves 30 degrees per hour)

(a) 7:20



$$\frac{1}{3} \text{ hour} \rightarrow 10 \text{ degrees} = a^\circ$$

$$\therefore 10^\circ + 30^\circ + 30^\circ + 30^\circ = \boxed{100^\circ}$$

(b) 9:30



$$\frac{1}{2} \text{ hour} \rightarrow 15 \text{ degrees} = A^\circ$$

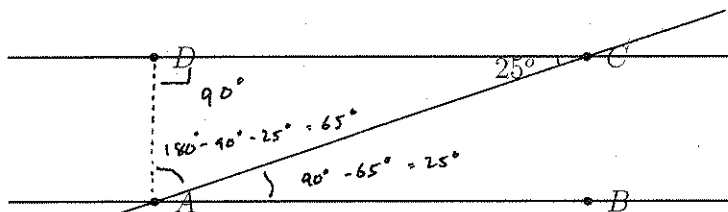
$$\therefore 15^\circ + 90^\circ = \boxed{105^\circ}$$

(c) 3:00



$$\boxed{90^\circ}$$

2. (3 points) Fill in the measures of $\angle A$, $\angle B$ and $\angle C$.



Note: The segments \overline{AB} and \overline{CD} are parallel.

the angle with measure C and a 25° are a vertical pair

$$\boxed{\angle C = 25}$$

B is a straight angle

$$\boxed{\angle B = 180}$$

$$\therefore \boxed{m \angle A = 25^\circ}$$

Note: $m \angle$ is short for "measure of angle"

3. (5 + 5 = 10 points) Find the missing angle θ in each part.

measure of straight \angle
 $= 180^\circ - 110^\circ$
 $= \boxed{70^\circ}$

(a)

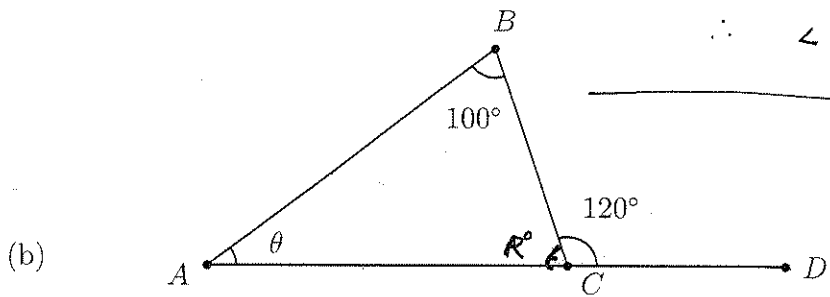
Note: You may assume that all corners form right angles.

$= 180^\circ - 90^\circ = 90^\circ = 50^\circ$
 total measure of \angle in Δ

$= 90^\circ - 50^\circ = 40^\circ$
 $= 180^\circ - 30^\circ - 40^\circ = 110^\circ$
 total measure of right \angle

total measure of \angle in Δ

Alternative solution: $\angle ADE$ has measure $90^\circ - 40^\circ = 50^\circ$
 $\angle DAE$ has measure $90^\circ - 30^\circ = 60^\circ$
 $\therefore \angle DEA$ has measure $180^\circ - 50^\circ - 60^\circ = \boxed{70^\circ}$.



$R = 180 - 120 = 60$ straight \angle

$\therefore \theta + 100^\circ + 60^\circ = 180^\circ$ angles in Δ

$\therefore \theta = 20^\circ$