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ES8 N5 Applications of Maths (Geometry & Measure)
Speed, Distance & Time

Worked Solutions Courtesy of Mr R. Milton

(1) $T = \frac{D}{S}$

$= \frac{360}{90}$

$= 4$ HOURS ✓

(2) $D = S \times T$

$= 62 \times 3$

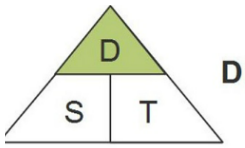
$= 186$ miles ✓

(3) $S = \frac{D}{T}$

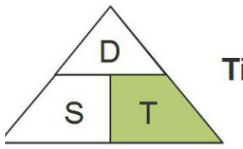
$= \frac{119}{17}$

$= 7$ m/s ✓

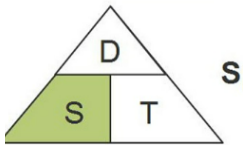
Please try to remember the speed, distance & time triangles



Distance = **S**peed x **T**ime



Time = $\frac{\textbf{D}\text{istance}}{\textbf{S}\text{peed}}$



Speed = $\frac{\textbf{D}\text{istance}}{\textbf{T}\text{ime}}$

Conversion rules:

1. Hours to mins - times by 60
2. Mins to hours - divide by 60

(4) $T = \frac{D}{S}$

$= \frac{160}{64}$

$= 2.5$ HOURS → $0.5 \times 60 = 30$ MINS

$=$ 2 HOURS 30 MIN ✓

(5) $D = S \times T$

$T =$ 3 HR 36 MINS

$36\text{MIN} = \frac{36}{60} = 0.6$

$\Rightarrow T = 3.6$ HRS

$D = S \times T$

$= 420 \times 3.6$

$= 1512$ KM ✓

⑥ $S = \frac{D}{T}$ $\quad \frac{24}{60} = 0.4$ HOUR

$= \frac{5}{0.4}$

$= 12.5$ km/h

⑦ $T = \frac{D}{S}$

$= \frac{256}{48}$ → $\frac{1}{3} \times 60 = 20$ MINS

$= 5\frac{1}{3}$ HOUR

$= 5$ HOURS 20 MINS ✓

⑧ $D = S \times T$ $\quad T = 2$ MIN 12 SEC

$= 3.5 \times 132$ $\quad = 132$ SEC

$= 462$m ✓

⑨ $S = \frac{D}{T} = \frac{585}{156}$ $\quad T = 2$ MIN 36 SEC

$= 156$ SEC

$= 3.75$ m/s ✓

(0·55 × 60 = 33 MIN)

(10) $T = \frac{D}{S} = \frac{284}{80} = 3{\cdot}55$ HRS

= 3 HRS 33 MINS

AQ

E → F

DEPART 1512

FLIGHT TIME 1 HOUR 55 MIN

ARRIVE (F) 1707 [UK TIME]

F → Z

(0·8 × 60 = 48 MIN)

$T = \frac{D}{S} = \frac{7424}{580} = 12{\cdot}8$

= 12 HOURS 48 MIN

WORKING BACKWARDS

FLIGHT LANDS ZIMBABWE 1222

= 1022 [UK TIME]

1022 − 12 HOURS 48 MINS = 2134 [UK TIME]

→ PLANE LANDS F AT 1707

PLANE LEAVES F AT 2134

2134 − 1707 = 4 HOURS 27 MINS

LAYOVER IN FRANKFURT WAS 4 HOURS 27 MIN