

WORKING & ANSWERS FOR PLE 2017

<p style="text-align: center;"> $\begin{array}{r} 146391 \\ + 43609 \\ \hline 190000 \end{array}$ </p>	<p>1cm rep. 15km 10cm rep. (15 × 10)km 10cm rep. 150km</p>	<p>3 (a). even (b). frequency</p>
<p>4 V = L × W × H V = 6m × 5m × 4m V = 120m³ V = (120 × 1000) litres V = 120,000 litres</p>	<p>5 T = (12:00 – 8:00) + 2hr T = 4hr + 2hr T = 6hrs The Journey took 6 hours</p>	<p>6 Hint: Comp. angles add up to 90° t° = 90° – 43° = 47°</p>
<p>7 = (246 × 100) – 246 = 24,600 – 246 = 24,354</p>	<p>8 Av = $\frac{\text{sum of items}}{\text{number of items}}$ = $\frac{61 + 52 + 48 + 21 + 58}{5}$ = $\frac{240}{5}$ = 48</p>	<p>9 7,000,000 700,000 + 7 7,700,007</p>
<p>10 = 8 × 1,000 + 5 × 100,000 = 8,000 + 500,000 = 508,000</p>	<p>11 -23 + 6 = -17 -17 + 6 = -11 -11 + 6 = -5 -5 + 6 = 1 -23; -17; -11; -5; 1</p>	<p>12 = 850 + (850 × $\frac{20}{100}$) = 850 + 170 = 1,020</p>
<p>13 Hint: Follow BODMAS = (250 + 180) – 15 ÷ 3 = 430 – 5 = 425</p>	<p>14 Hint: Neg. removes the brkts 3x – 5x + 2 = 0 -2x + 2 – 2 = 0 – 2 $\frac{-2x}{-2} = \frac{-2}{-2}$ x = 1</p>	<p>15 Hint: Prime numbers are numbers with only two factors i.e one and itself. = 2, 3, 5, 7</p>
<p>16 1 ha = 100a 0.25ha = $\frac{25}{100} \times 100$ = 25ares</p>	<p>17 $\begin{array}{r} \quad _{two} \\ + \quad \quad _{two} \\ \hline \quad \quad 0_{two} \end{array}$ </p>	<p>18 n = $\frac{360^\circ}{\text{ext. angle}}$ = $\frac{360^\circ}{20^\circ}$ = 18 sides</p>
<p>19 3720 ÷ 60 = 62 min 00sec 62 ÷ 60 = 1hr 2min Therefore: 3720sec = 1hour 2mins</p>	<p>20 (a). A ∩ B = {3, 11, 27} (b). Set B is a <u>subset</u> of set A</p>	<p>21 (100 – 16)% → 4,200F 84% → 4,200F 1% → $\frac{4,200}{84}$ 100% → $\frac{4,200 \times 100}{84}$ → 5,000Frw</p>

<p>22</p> $r = D \div 2$ $= 28m \div 2 = 14m$ $A = \pi r^2$ $= \frac{22}{7} \times 14m \times 14m$ $= 616 m^2$	<p>23</p> <p>Hint: Sum and difference are given</p> $\text{Boys} = \frac{32+10}{2} = \frac{42}{2} = 21$ $\text{Girls} = \frac{32-10}{2} = \frac{22}{2} = 11$	<p>24</p> $= \frac{12}{100} \times 280,000$ $= 33,600$																
<p>25</p> $= \frac{3}{5} \times 10,000$ $= 6,000 \text{Frw}$	<p>26</p> $= \frac{3}{2} \times 70,000$ $= 105,000 \text{Frw}$	<p>27</p> <p>Hint: Sum and difference are given</p> $\text{Bag} = \frac{75000-15000}{2}$ $= \frac{60000}{2} = 30,000 \text{Frw}$ $\text{Sci.bk} = \frac{75000+15000}{2}$ $= \frac{90000}{2} = 45,000 \text{Frw}$																
<p>28</p> $I = \frac{PTR}{100} = \frac{600000 \times 2 \times 4}{100}$ $= 48,000 \text{Frw}$ $A = P + I$ $= 600,000 \text{F} + 48,000 \text{F}$ $= 648,000 \text{Frw}$	<p>29</p> <p>(a). Duo decagon</p> <p>(b). Ext $= \frac{360^\circ}{n} = \frac{360^\circ}{8}$</p> $= 45^\circ$ <p>Int $= 180^\circ - \text{Ext}$</p> $= 180^\circ - 45^\circ$ $= 135^\circ$	<p>30</p> $W = \frac{A}{L} = \frac{15dm^2}{50cm}$ $= \frac{(15 \times 100)cm^2}{50cm}$ $= \frac{1500cm^2}{50cm}$ $= 30 cm$																
<p>31</p> <p>3 parts = 40,000Frw</p> <p>1 part $= \frac{40,000 \text{Frw}}{3}$</p> <p>1 part = 13,333.33</p> <p>1 part $\approx 13,333 \text{Frw}$</p> <p>4 parts = $13,333 \times 4$</p> $= 53,332 \text{Frw}$ <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>(b). $= 13,333 \times 5$</p> $= 66,665 \text{Frw}$ <p>(c). $= 13,333 \times 12$</p> $= 159,996 \text{Frw}$ </div>	<p>32</p> <p>(a). $= \frac{2}{6} + \frac{1}{5} + \frac{1}{3}$</p> $= \frac{10+6+10}{30} = \frac{26}{30} = \frac{13}{15}$ <p>(b). $= \frac{15}{15} - \frac{13}{15} = \frac{2}{15}$</p> <p>(c). $= \frac{13}{15} \times 9000$</p> $= 7,800 \text{ people}$ <p>(d). M $= \frac{1}{5} \times 9000$</p> $= 1,800 \text{ men}$ <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>(e). $= \frac{2}{6} \times 9000$</p> $= 3,000 \text{ women}$ <p>(f). $= \frac{1}{3} \times 9000$</p> $= 3,000 \text{ children}$ </div>																	
<p>33</p> <p>(a). $V = \pi r^2 h$</p> $= 3.14 \times 1 \times 1 \times 4$ $= 12.56 cm^3$ <p>(b). $= \frac{10}{10} - \left(\frac{4}{10} + \frac{3}{10} \right)$</p> $= \frac{3}{10}$ <p>(c). $= \frac{60000 \times 10}{3}$</p> $= 200,000 \text{Frw}$	<p>34</p> <table border="1" style="display: inline-table;"> <thead> <tr> <th>x</th> <th>f</th> </tr> </thead> <tbody> <tr> <td>30</td> <td>5</td> </tr> <tr> <td>40</td> <td>8</td> </tr> <tr> <td>42</td> <td>10</td> </tr> <tr> <td>50</td> <td>2</td> </tr> <tr> <td>70</td> <td>4</td> </tr> <tr> <td>80</td> <td>6</td> </tr> <tr> <td>312</td> <td>35</td> </tr> </tbody> </table> <p>(b). 35 pupils</p> <p>(c). 80</p> <p>(d). 42</p> <p>(e). 5 pupils</p>	x	f	30	5	40	8	42	10	50	2	70	4	80	6	312	35	<p>35</p> <p>(a). D = S x T</p> $= 20 \times 3$ $= 60 \text{km}$ <p>(b). T.D = $60 \times 2 = 120 \text{km}$</p> <p>(c). T.T = $3 + 1 = 4 \text{ hours}$</p> <p>(d). A.S = $\frac{T.D}{T.T}$</p> $= \frac{120 \times 1000}{4 \times 3600}$ $= 8 \frac{1}{3} \text{ m/s}$
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