

ACS 2021 Prelim Last 5qn ANS

Q13)	$21 - 15 = 6$ $54 \div 6 = 9$ $(9 \times 21) - (9 \times 15) = 54$ $9 \times 21 = 189$ $189 \div 21 = 9$ $9 \times 30 = 270$ $270 \times 2 = 540$
Q14)	a) 135 b) 1350
Q15)	a) $836\text{cm}^3$ b) $127.6\text{cm}$
Q16)	$60 + 80 = 140$ $140 \times 7 = 980$
Q17)	a) $20 + 12 = 32$ $48 \div 32 = 1.5$ b) $1.5 \times 4 = 6$ $6 \times 1.5 = 9$ $1.5 \times 6 = 9$ $9 \times 1.5 = 13.5$ $4.5 \times 1.5 = 6.75$ $3 \times 1.5 = 4.5$ $4.5 + 6.75 + 13.5 + 9 = 33.75$ $1.5 \times 6 = 9$ $1.5 \times 10 = 15$ $9 \times 15 = 135$ $135 - 33.75 = 101.25$

# Cat High 2021 Prelim Last 5qn ANS

	c) 10 minutes
Q13)	<p>a) <math>\angle x = 180^\circ - 59^\circ - 59^\circ = 62^\circ</math>  b) <math>360^\circ - 63^\circ - 117^\circ - 59^\circ = 121^\circ</math>  <math>\angle GEF = 180^\circ - 121^\circ = 59^\circ</math>  <math>\angle CGE = 360^\circ - 117^\circ - 59^\circ - 59^\circ = 125^\circ</math>  <math>\angle y = 180^\circ - 125^\circ = 55^\circ</math></p>
Q14)	<p>a) <math>\frac{12}{16} cw = \frac{12}{15} N</math>  <math>16u = 160</math>  <math>1u = 10</math>  <math>15u = 150</math> nuggets  b) <math>\frac{1}{4}</math> of 160 = 40  <math>65 - 40 = 25</math></p> <p style="text-align: center;"><math>\frac{25}{100} \times 100\% = 62.5\%</math></p>
Q15)	<p>a) <math>13 - 5 = 8</math>  <math>44 - 8 - 5 - 5 - 5 = 21</math>  Radius of small semi circle = <math>21 \div 3 = 7</math>cm  b) Radius of big semi circle = <math>\frac{(44-8)}{3} = 12</math>  <math>3.14 \times 12 \times 2 = 75.36</math>  <math>3.14 \times 7 \times 2 = 42.96</math></p> <p><math>75.36 + 42.96 + 5 + 5 + 5 + 5 + 13</math>  <math>= 152.43</math>cm</p>

Q16)	<p>a) David = 150p  <math>90u = 150p</math>  Cathy baked = 20  David baked = 6p  <math>6p - 2u = 72</math>  <math>2u = 6p - 72</math>  <math>90u = 150p</math>  <math>90u = 270p - 3240</math>  <math>150p = 270p - 3240</math>  <math>3240 = 270p - 150p</math>  <math>120p = 3240</math>  <math>1p = 27</math>  <math>150p = 4050</math>  <math>90u = 4050</math>  <math>U = 45</math>  <math>2u = 90</math>  <math>6p = 27 \times 6</math>  <math>= 162</math>  <math>90 + 162 = 252</math></p> <p>b) <math>22 \times 5 = 110</math>  <math>162 - 110 = 52</math>  <math>9 - 5 = 4</math>  <math>52 \div 4 = 43</math></p>
Q17)	<p>a) <math>30 \div 2 = 15</math>  <math>460 \div 30 = 15R10</math>  <math>15 \times 2 = 30</math>  <math>30 \times 15 = 450</math></p> <p>b) <math>450 \div 30 = 15</math>  <math>15 - 1 = 14</math>  <math>14 \div 2 = 7</math>  <math>(7 \times 1) + (7 \times 2) + 1 = 22</math>  <math>(7 \times 22) + (7 \times 15) + 15 = 274</math></p>

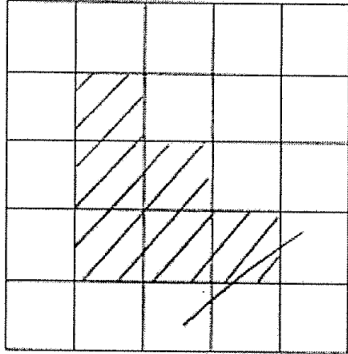
Henry Park 2021 Prelim Last 5qn ANS

Q13)	$12 \times 10 = 120$ $10 \times 10 \times 3.14 \times \frac{1}{4} = 78.5$ $120 - 78.5 = 41.5$ $\frac{1}{4} \times 3.14 \times 12 \times 12 = 113.04$ $113.04 - 41.5 = 71.54\text{cm}^2$
Q14)	a) $210\text{cm}^2$ b) 662
Q15)	a) 40 16  b) $169 \times 169 = 28561$  c) 29921
Q16)	a) $13 - 5 = 8$ $8 \times 40 = 320$

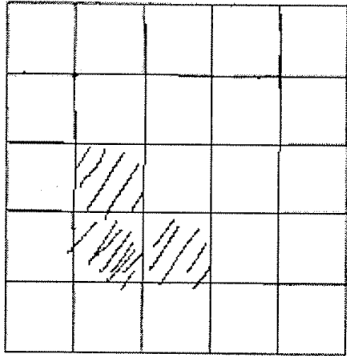
	$b) 4G + 128 + 5G = 452$ $9G = 452 + 28 = 324$ $10G = 324 \times \frac{10}{9} = 360$ $13 \times 15 = 195$ $195 + 360 = 555$
Q17)	$a) 8 + 15 = 23$ $552 \div 23 = 24$ $36 \times 24 = 864$  $192 + 360 = 552$  $b) 80 \div 6 = 13R2$ $360 \div 13 = 27R9$ $27 + 1 = 28$

MG5 2021 Prelim Last 5qn ANS

Q13)



Front view [1]



Top view [1]

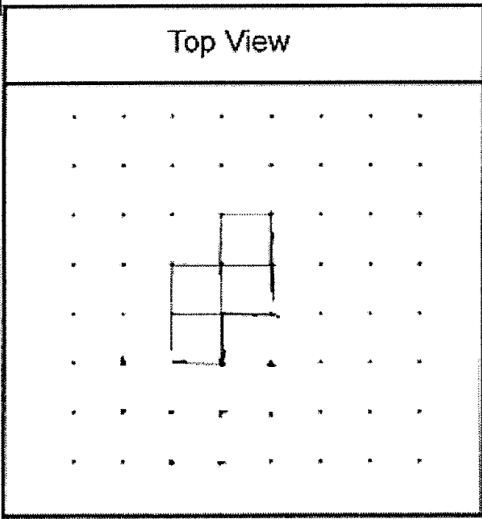
a)

b) $42\text{cm}^2$	
Q14)	$\sqrt{625\text{cm}^2} = 25\text{cm}$ $625\text{cm}^2 \div 25 \times 9 = 225\text{cm}^2$ $\sqrt{225\text{cm}^2} = 15\text{cm}$ $25\text{cm} - 15\text{cm} = 10\text{cm}$
Q15)	<ul style="list-style-type: none"> <li>a) <math>30^\circ</math></li> <li>b) <math>105^\circ</math></li> <li>c) False</li> </ul> <p style="margin-left: 20px;">Not possible to tell</p> <p style="margin-left: 20px;">False</p>
Q16)	<ul style="list-style-type: none"> <li>Ai) 15</li> <li>ii) 21</li> </ul> <p>b) shaded 45 unshaded 36</p>
Q17)	$40\text{cm}^2 \div 2 = 20\text{cm}$ $\text{Area of circle} = 3.14 \times 20\text{cm} \times 20\text{cm}$ $= 1256\text{cm}^2$ $40\text{cm} \times 40\text{cm} = 1600\text{cm}^2$ $1600\text{cm}^2 - 1256\text{cm}^2 = 344\text{cm}^2$ $344\text{cm}^2 \div 4 = 86\text{cm}^2$ $86\text{cm}^2 \times \frac{1}{2} = 800\text{cm}^2$ $1428\text{cm}^2 - 800\text{cm}^2 = 628\text{cm}^2$

Nan Chiau 2021 Prelim Last 5qn ANS

Q13)	a) 62 b) \$6.90
Q14)	a) 105° b) 64°
Q15)	$140 \div 5 = 28$ $28 \times 3 = 84$ $3u = 28c$ $28 + 36 = 64$ $187.5 \div 50 = 3.75$ $3.75 \times 3 = 1.25$ $1.25 \times 32 = 40$ \$40
Q16)	a) 19cm b) 219.32cm c) 5cm

Q17)

a)  

b) 1

c) 7cm

## Nanhua 2021 Prelim Last 5qn ANS

<b>Q13)</b>	<p>a) Area of big <math>\frac{1}{2}</math> circle = <math>\frac{1}{2} \times \pi \times 8^2 = 32\pi \text{ cm}^2</math></p> <p>Area of small <math>\frac{1}{2}</math> circle = <math>\frac{1}{2} \times \pi \times 6^2 = 18\pi \text{ cm}^2</math></p> <p><math>32\pi - 18\pi = 14\pi</math></p> <p><math>14\pi \times 3 = 42\pi \text{ cm}^2 = \mathbf{131.95 \text{ cm}^2}</math></p>
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	<p>b) Arc of big <math>\frac{1}{2}</math> circle = <math>\frac{1}{2} \times \pi \times 16 = 8\pi \text{ cm}</math></p> <p>Arc of small <math>\frac{1}{2}</math> circle = <math>\frac{1}{2} \times \pi \times 12 = 6\pi \text{ cm}</math></p> <p><math>8\pi \times 3 = 24\pi</math></p> <p><math>6\pi \times 3 = 18\pi</math></p> <p><math>24\pi + 18\pi + (4 \times 2) = 42\pi + 8 = \mathbf{139.95 \text{ cm}}</math></p>
<b>Q14)</b>	<p>a) <math>7 + 2 = 9</math></p> <p><math>40 \times 9 = 360</math> cards each</p> <p><math>360 \times 2 = 720</math></p> <p><math>720 - 384 = \mathbf{336 \text{ cards}}</math></p> <p>b) <math>360 - 336 = 24</math> (John lack)</p> <p><math>24 \div 2 = 12</math> (cards John traded for special card)</p> <p><math>40 \times 2 = 80</math></p> <p><math>80 - 12 = \mathbf{68 \text{ cards}}</math></p>
<b>Q15)</b>	<p>a) <b>10 min</b></p> <p>b) Tap A: <math>5 \text{ min} \rightarrow 25 \ell</math></p> <p><math>1 \text{ min} \rightarrow 25\ell \div 5 = 5 \ell</math></p> <p>A and B: <math>150 \ell - 50 \ell = 100 \ell</math> in 5 min</p> <p><math>1 \text{ min} \rightarrow 100\ell \div 5 = 20 \ell</math></p> <p>Tap B: <math>20\ell - 5 \ell = \mathbf{15 \ell}</math></p>
<b>Q16)</b>	<p>a) <math>\angle AOE = 180^\circ - 103^\circ = 77^\circ</math></p> <p><math>\angle EOB = 180^\circ - 58^\circ - 58^\circ = 64^\circ</math></p> <p><math>\angle FOB = 360^\circ - 103^\circ - 77^\circ - 64^\circ = 116^\circ</math></p> <p><math>\angle FBO = (180^\circ - 116^\circ) \div 2 = 32^\circ</math></p> <p>b) <math>\angle OAC = 180^\circ - 77^\circ - 64^\circ = 39^\circ</math> (interior angles. AC // OB)</p>
<b>Q17)</b>	<p>(a)(i) <math>12 + 12 = 24</math></p> <p>(a)(ii) <math>13 + 34 = 37</math></p>

	<p>(b) Figure 10 (even number)</p> <p>Total squares: <math>(10 + 1^2) = 121</math></p> <p>White squares: <math>(121 - 1) \div 2 = \mathbf{60}</math></p> <p>(c) <math>\sqrt{441} = 21</math></p> <p>Figure Number = <math>21 - 1 = \mathbf{20}</math></p>
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Nanyang 2021 Prelim Last 5qn ANS

Q13)	$21\text{cm} + 4\text{cm} + 4\text{cm} = 29\text{cm}$ $29\text{cm} \div 5 = 5.8\text{cm}$ $87\text{cm} \div 5.8\text{cm} = 14$
Q14)	a) Monday b) 91
Q15)	$6u + 12u = 576$ $18u = 576$ $U = 32$ $7u = 224$ $8u - 26 = 70$ $224 - 70 = 154$
Q16)	a) $75^\circ$ b) $80^\circ$

	c) False False
Q17)	a) $12\text{cm} \times 3.14 = 37.68\text{cm}$ b) $12\text{cm} / 2 = 6\text{cm}$ $6\text{cm} \times 6\text{cm} \times 3.14 = 113.04\text{cm}^2$ $12\text{cm} \times 12\text{cm} = 144\text{cm}^2$ $144\text{cm}^2 - 113.04\text{cm}^2 = 30.96\text{cm}^2$ $30.96\text{cm}^2 / 4 = 7.74\text{cm}^2$ $113.04\text{cm}^2 \times 2 = 226.08\text{cm}^2$ $226.08\text{cm}^2 - 144\text{cm}^2 = 82.08\text{cm}^2$ $82.08\text{cm}^2 / 4 = 20.52\text{cm}^2$ $144\text{cm}^2 - 7.74\text{cm}^2 - 113.04\text{cm}^2 + 20.52\text{cm}^2 = 43.74\text{cm}^2$

PeiHwa 2021 Prelim Last 5qn ANS

Q13)	$5u = 770$ $1u = 154$ $3u = 462$ $462 \div 33 = 14$ $14 \times 2 = 28$ $33 - 14 = 19$ a) 14cm b) 132cm
Q14)	a) $40^\circ$ b) $30^\circ$
Q15)	a) 10 b) 20%
Q16)	a) $180 - 32 = 148$ $1 + 8 - 90 - 90 = -32$ $45 - 32 = 13$ $180 - 90 - 13 = 77$ $13^\circ$ b) $77^\circ$
Q17)	<p style="text-align: center;">Number of Cupcakes Baked By Each Class</p> <p>a) 70                  b) 70                  c) Small 39                  Large 9</p>

Tao Nan 2021 Prelim Last 5qn ANS

Q13)	a) 8cm b) $\frac{1}{4} \times 3.14 \times 16 = 12.56$ c) $\frac{1}{2} \times 8 \times 16 = 64cm^2$
Q14)	a) 2020 b) $\frac{125}{100} \times 60000 = 75000$ c) $\frac{5200}{10000} \times 100\% = 520\%$
Q15)	$41 \times 2 = 82$ $256 - 82 = 174$ $174 \div 29 = 6$ $6 + 2 = 8$
Q16)	a) 18 220 18 441 b) 26 c) $729 = 27 \times 27$ $27 - 1 = 26$ $840 + 841 = 1681$ $1681 = 41 \times 41$ $41 - 1 = 40$
Q17)	a) $4 \times 42 = 168$ b) 18 faces c) 17



Raffles 2021 Prelim Last 5qn ANS

<p>Q13)</p>	$30 \times 10 \times 20 = 6000$ $6000 \times \frac{5}{8} = 3750$ $15 \times 15 \times 15 = 3375$ $3750 - 3375 = 375$ $375 \text{ml} = 0.375 \text{l}$ <p>(a) <math>3750 \text{cm}^3</math> (b) <math>0.375 \text{l}</math></p>
<p>Q14)</p>	$45 - 18 = 27$ $45 + 18 = 63$ $180 - 63 - 63 = 54$ $90 - 54 = 36$ $(180 - 36) \div 2 = 72$ $90 - 72 = 18$ <p>(a) <math>54^\circ</math> (b) <math>18^\circ</math></p>
<p>Q15)</p>	$8 \times 2 = 16$ $16 \div 4 = 4$ $4 \times 2 = 8$ $\frac{1}{4} \times 16 \times 3.14 = 12.56$ $8 \times 3.14 = 25.12$ $25.12 + 12.56 + 16 + 8 + 8 = 69.68$ <p>(a) <math>8 \text{cm}</math> (b) <math>69.68 \text{cm}</math></p>
<p>Q16)</p>	<p>ml: dl: t = 2: 1: 3 = 4: 2: 6</p> $4u = 152$ $u = 38$ $2u = 76$ $7u = 266$ <p>(a) <math>76</math> (b) <math>266</math></p>
<p>Q17)</p>	$16107 - 663 = 15444$ $15444 \div 2 = 7722$ $7722 \div 3 = 2574$ $7722 + 663 = 8385$ $8385 \div 5 = 1677$ $2574 - 1677 = 897$ $897 \div 69 = 13$ $13 \times 5 = 65$ <p>(a) <math>\\$7722</math> (b) <math>65</math></p>

Red Swastika 2021 Prelim Last 5qn ANS

Q13)	a) $180 - 105 = 75$ $180 - 75 - 24 = 81$ b) $180 - 24 - 24 = 132$ $132 - 75 = 57$ c) Parallelogram , trapezium
Q14)	a) $335.62\text{cm}^2$ b) $27.1\text{cm}$
Q15)	a) $3 : 1 : 2$ b) \$168
Q16)	a) 3 b) 699
Q17)	a) $12/4 = 3\text{cm}$ $12 + 3 = 15\text{cm}$ $3 \times 5 = 15\text{cm}$ $15 \times 15 \times 3 = 675\text{cm}^2$ b) 12 c) 22

<p>Q13)</p>	$12p - 12u = 7cm \times 12 = 84cm$ $3p \text{ diff} = 7cm \times 3 = 21cm$ $27u = 375cm - 21cm - 84cm = 270cm$ $1u = 270cm \div 27 = 10cm$ $total = 375cm + 10cm + 3cm = 388cm$ <p>(a) 7cm (b) 388cm</p>
<p>Q14)</p>	$1 \text{ medium } D = 5 + 1 + 1 = 7$ $1 \text{ medium} = 3.14 \times 3.5 \times 3.5 \div 2 = 19.2325$ $1 \text{ large} = 3.14 \times 4.5 \times 4.5 \div 2 = 31.7925$ $1 \text{ small} = 3.14 \times 2.5 \times 2.5 = 9.8125$ $31.7925 - 19.2325 = 12.56$ <p>(a) <math>1 \times 4 + 5 = 9m</math> (b) <math>12.56 \times 4 + 9.1825 \times 2 \approx 69.87m</math></p>
<p>Q15)</p>	<p>(a) <math>360^\circ - 122^\circ - 137^\circ = 101^\circ</math> (b) <math>180^\circ - 43^\circ - 34^\circ = 103^\circ</math> <math>103^\circ - 17^\circ = 86^\circ</math> (c) <math>360^\circ - 129^\circ - 103^\circ - 34^\circ = 94^\circ</math></p>
<p>Q16)</p>	$evening - 1 - \frac{1}{6} - \frac{3}{6} = \frac{7}{30}$ $pack - 280 \div 7 \times 18 = 720$ $more - 20 \times 8 = 160$ $1u - \frac{720 - 160}{20} = 28$ $28 + 20 = 48$ <p>(a) 720 (b) 48</p>

<p>Q17)</p>	$16 \text{ notebook} - 4 \times 5.40 = 21.60$ $2c - 60.30 - 21.60 = 38.70$ $2c - 25.80 \times 2 = 51.60$ $diff - 51.60 - 38.70 = 12.90$ $\frac{12.9}{51.6} \times 100\% = 25\%$ $1 \text{ set diff} - 103.20 - 5.40 = 97.80$ $set - 1467 \div 97.80 = 15$ $NB - 15 \times 4 = 60$ <p>(a) 25% (b) 60</p>
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