## 11+ Independent Style Mathematics Paper 1

## Answers

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| Question |  | Answer |
| :---: | :---: | :---: |
| 1 | 0 | 12 |
|  | 6 | 6 |
|  | C | 4 |
|  | d | $\begin{gathered} -10 \\ 30 /-3=-10 \end{gathered}$ <br> (2 marks) |
| 2 | a | 31, 37, 41, 43, 47 |
|  | $b$ | 71, 73, 79, 83, 89 |
|  | C | False <br> 2 is a prime number. Anything multiplied by 2 is always even. |
| 3 | a | 9 |
|  | $b$ | 6 |
| 4 |  | 4 pm <br> The LCM of $0.25,0.4$ and 0.5 is 2.0. |
| 5 | a | $7^{5}$ <br> When multiplying, add the powers. |
|  | b | $7^{3}$ <br> When dividing, subtract the powers. |
|  | C | $7^{8}$ |
|  | d | $7^{8}$ <br> When using brackets, the powers are multiplied. |
| 6 |  | $\begin{gathered} 329 \\ 652-140=512 \\ 512 / 16=32 \end{gathered}$ <br> (2 marks) |
| 7 |  | E <br> 2 sides are removed, but 2 sides are exposed, so the perimeter is unchanged. |


| 8 | 0 | 3 m |
| :---: | :---: | :---: |
|  | b | 159 |
|  | C | $7 \mathrm{~s}+5 \mathrm{t}$ |
| 9 | a | $\begin{gathered} 23 \\ 3 \times 9-4 \end{gathered}$ |
|  | b | $\begin{gathered} 33 \\ 4 \times-3+9 \times 5 \end{gathered}$ |
| 10 | a | $x+4$ |
|  | b | 2 x |
| 11 | a | 35 minutes |
|  | b | 14 minutes 31-17 |
|  | c | $44 \operatorname{mins}_{31+13}$ |
| 12 | a | 4 |
|  | b | $\begin{gathered} 2 / 3 \\ 46+6+4+27=80 \\ 80 / 120=2 / 3 \end{gathered}$ |
|  | c | $\begin{gathered} 18 \\ 80+13+5+4=102 \\ 120-102=18 \end{gathered}$ |
|  | d | $\begin{gathered} 50 \% \\ 43+13+4=60 \\ 60 / 120=50 \% \end{gathered}$ |
| 13 |  | $\begin{gathered} 7 / 20 \\ 1 / 4+3 /=13 / 20 \\ 1-13 / 20=7 / 20 \end{gathered}$ |
| 14 | a | 70\% |
|  | b | 65\% |
|  | c | 30\% |
|  | d | 25\% |

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| 15 | a | $\frac{21 \mathrm{~m}_{6.5+6.5+4+4=21}}{\text { 2. }}$ |  |
| :---: | :---: | :---: | :---: |
|  | b | 94 tiles <br> $\begin{aligned} \text { Area }= & 4 \times 4.5+2.75 \times 2=23.5 \\ & 0.5 \times 0.5=0.25 \\ & 23.5 / 0.25=94\end{aligned}$ | (3 marks) |
| 16 |  | $\begin{gathered} 60^{\circ} \\ 4 a+5 a+6 a+3 a=360 \\ a=360 / 18=20 \\ 3 a=60 \end{gathered}$ | (2 marks) |
| 17 | a | $x>-3$ |  |
|  | b | -4 $\leq x \leq 2$ |  |
|  | C | $-2<x \leq 0$ |  |
| 18 | a | $\begin{gathered} 65 / 360=13 / 72 \\ 2 x+x-8+x+3+x=360 \\ 5 x-5=360 \\ 5 x=365 \\ x=73 \\ 73-8=65 \end{gathered}$ | (3 marks) |
|  | b | $\begin{gathered} 76 / 360=19 / 90 \\ x=73 \\ 73+3=76 \end{gathered}$ |  |
| 19 | 0 | 4 |  |
|  | b | 4 |  |
|  | C | ${ }_{6-4}^{2}$ |  |
| 20 | a | $\begin{gathered} 88.5 \mathrm{~cm}^{2} \\ 5.5 \times 7+5 \times 10=88.5 \end{gathered}$ |  |
|  | b | $\begin{gathered} 44 \mathrm{~cm} \\ 5.5+7+4.5+5+10+12=44 \end{gathered}$ |  |
| 21 | 0 | $\begin{gathered} 54 \mathrm{~cm}^{3} \\ 3 \times 9 \times 2=54 \end{gathered}$ |  |
|  | b | $\begin{gathered} 102 \mathrm{~cm}^{2} \\ 27 \times 2+18 \times 2+6 \times 2=102 \end{gathered}$ |  |

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| 22 | a | 3 km |
| :---: | :---: | :---: |
|  | b | 15 mins |
|  | C | 15 mins |
|  | d | 12 km/h <br> 3 km in 15 mins, so 12 km in 1 hour |
|  | e | 20 mins |
|  | f | 4 km |
|  | 9 | $12 \mathrm{~km} / \mathrm{h}$ <br> 4 km in 20 mins , so 12 km in 1 hour |
| Total |  | 165 |

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