

Electrician

Mock test

Mathematics

Entrance EL 2020

Time

30 minutes

Maximum points

30 points

Aids

Calculator

Date

Name

Tasks	Maximum points	Your points
1 Arithmetic operations	10	
2 Fractions and decimals	5	
3 Percentages	5	
4 Indices	5	
5 Algebra	5	
Total	30	

Date

Examiner(s)

Note: Using unauthorized aids or copying from other students will result in zero points for this test.

1 Arithmetic operations
10 points

 Write the solution for the following calculations into the box. **1 p each**

Task	Solution	Task	Solution
a) $67-82+34$	19	b) $813-(-674)-520$	940
c) $-23148-47724+3000$	- 67872	d) $2.027 + 16.6 +153$	171.63
e) $143 \times (-31)$	- 4433	f) $6+4 \div (-5-3)$	8
g) $16 \div (2+6)+18[3+(4 \times 6)-21]$	110	h) $0.065 - 0.0007$	0.06
i) $13-2 \times 3+14 \div (2+5)$	9	j) $23-4(2 \times 7)+36 \div 6$	-27

2 Fractions and decimals
5 points

 Write the solution for the following calculations into the box. **1 p each**

Task	Solution in fraction
a) $\frac{11}{3} - \frac{13}{6}$	$\frac{3}{2}$
b) $\left(2 \times \frac{5}{6}\right) \times \left(6 \div \frac{7}{10}\right)$	$\frac{100}{7}$
c) $\left(\frac{2}{3} \times 1 \frac{1}{4}\right) \div \left(\frac{2}{3} + \frac{1}{4}\right) + 1 \frac{3}{5}$	$2 \frac{28}{55}$
Task	Solution in decimals
d) Express $13 \frac{31}{37}$ as a decimal	13.84
e) Express 60% as a decimal	0.6

3 Percentages
5 points

 Write the solution for the following calculations into the box. **1 p each**

Task	Solution
a) Express 0.057 as percentages	5.7%
b) Express $\frac{7}{33}$ as percentages	21.2%
c) Express $1 \frac{2}{5}$ as percentages	140%
d) What is 4.5% of 1200	54
e) Express 25 minutes as a percentages of 2 hours	20.83%

4 Indices
5 points

 Write the solution for the following calculations into the box. **1 p each**

Task	Solution
a) $\frac{5^7}{5^4}$	5^3
b) $5^2 \times 5^3 \div 5^4$	5
c) $\frac{3^2 \times 3^{-4}}{3^3}$	$\frac{1}{3^5}$
d) $\frac{(9 \times 3^2)^3}{(3 \times 27)^2}$	3^4
e) $81^{0.25}$	± 3

5 Algebrs
5 points

 Write the solution If $a= 2$, $b= 6$, $c= 4$, $x = 3$ and $y = \frac{1}{2}$ calculate the following into the box. **1 p each**

Task	Solution
a) $2by =$	6
b) $2a(cy + bc) =$	104
c) $a^2 - y^2 =$	$3\frac{3}{4}$
d) $8ac + 5 ax =$	94
e) $\sqrt{a^2 + (cy)^2} =$	$2\sqrt{2}$