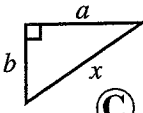


### Instructions for SECTION 1

- This part consists of 10 questions each worth 1 mark
- Calculators are NOT to be used in this section
- Time for this section is 15 minutes
- Fill in only ONE CIRCLE for each question

- 1**  $0.4 \times 0.12 =$   
 (A) 0.0048      (B) 0.048      (C) 0.48      (D) 4.8
- 2** If  $x = 3 - 2t^2$  and  $t = 3$  then  $x$  is equal to  
 (A) -526      (B) -33      (C) -15      (D) 9
- 3** In the diagram length  $x$  is equal to   
 (A)  $a^2 + b^2$       (B)  $\sqrt{a+b}$       (C)  $\sqrt{a^2 + b^2}$       (D) None of these
- 4** The mode of the set of scores 3, 2, 6, 1, 2, 7, 9, 2, 6 is  
 (A) 2      (B) 9      (C) 3      (D) 4.2
- 5** The reciprocal of  $\frac{1}{2} - \frac{1}{5}$  is  
 (A) -3      (B)  $\frac{10}{7}$       (C)  $\frac{10}{3}$       (D)  $\frac{3}{10}$
- 6** The gradient of the interval joining the points (2, 4) and (-1, 6) is  
 (A)  $-\frac{2}{3}$       (B)  $\frac{3}{2}$       (C)  $\frac{2}{3}$       (D) -2
- 7** If 516 831 is rounded off to the nearest thousand, the number is  
 (A) 516 800      (B) 520 000      (C) 517 000      (D) 500 000
- 8**  $2a^3 \times 3a^2 =$   
 (A)  $5a^5$       (B)  $5a^6$       (C)  $6a^5$       (D)  $6a^6$
- 9** Find the value of  $9^{\frac{3}{2}}$ .  
 (A) 6      (B) 18      (C) 30      (D) 27
- 10** 1.25 km =  
 (A) 125 m      (B) 12 500 mm      (C) 1250 m      (D) 12 500 m

Marks

1

1

1

1

1

1

1

1

1

1

**End of Section 1**

Total marks achieved for SECTION 1

1

# CHAPTER 11

## EXAM PAPER 1

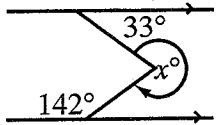
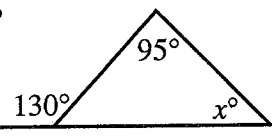
## SECTION 2 — PART

### Instructions for SECTION 2 (PART A)

- This part consists of 25 questions each worth 1 mark
- Calculators may be used
- Time for this section is 25 minutes
- Only provide your final answer in the space provided

Questions	Answers	Ma
<b>11</b> Write $\frac{1}{10} + \frac{2}{1000}$ as a decimal.	<hr/>	[ ]
<b>12</b> Convert $\frac{3}{8}$ to a decimal.	<hr/>	[ ]
<b>13</b> Convert $\frac{2}{5}$ to a percentage.	<hr/>	[ ]
<b>14</b> Evaluate $7 + 9 \times 3$ .	<hr/>	[ ]
<b>15</b> Evaluate $2\frac{2}{5} \div \frac{4}{15}$ .	<hr/>	[ ]
<b>16</b> How many seconds in $2\frac{1}{3}$ minutes?	<hr/>	[ ]
<b>17</b> Write 0.000406 in scientific notation.	<hr/>	[ ]
<b>18</b> Simplify $3a - 2ab + 5ab + 6a$ .	<hr/>	[ ]
<b>19</b> Factorise $6a^2b - 3ab$ .	<hr/>	[ ]
<b>20</b> Solve $18 - 2x = 7$ .	<hr/>	[ ]
<b>21</b> $2^x = 64$ , what is the value of $x$ ?	<hr/>	[ ]
<b>22</b> Solve $11 - 5x > 0$ .	<hr/>	[ ]
<b>23</b> What is the simple interest on \$250 at 12% p.a. for 3 years?	<hr/>	[ ]
<b>24</b> What is the length of the side of a square that has an area of $64 \text{ m}^2$ ?	<hr/>	[ ]
<b>25</b> Simplify $\sqrt{5} - 2\sqrt{3} - 5\sqrt{3}$ .	<hr/>	[ ]

Continued on next page

Questions	Answers	Marks
<p><b>26</b> What is the value of <math>x</math>?</p> 	<hr/>	<div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; margin: 0 auto;">1</div>
<p><b>27</b> What is the value of <math>x</math>?</p> 	<hr/>	<div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; margin: 0 auto;">1</div>
<p><b>28</b> A boat is bought for \$840 and sold for \$910. What is the profit?</p>	<hr/>	<div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; margin: 0 auto;">1</div>
<p><b>29</b> Expand <math>\sqrt{2}(\sqrt{5} - \sqrt{3})</math>.</p>	<hr/>	<div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; margin: 0 auto;">1</div>
<p><b>30</b> Simplify <math>\frac{3a}{4} - \frac{a}{6}</math>.</p>	<hr/>	<div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; margin: 0 auto;">1</div>
<p><b>31</b> What is the median of 11, 12, 10, 11, 12, 12?</p>	<hr/>	<div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; margin: 0 auto;">1</div>
<p><b>32</b> Make <math>x</math> the subject: <math>y = 2x + 8</math>.</p>	<hr/>	<div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; margin: 0 auto;">1</div>
<p><b>33</b> What is the gradient of the line <math>y + \frac{2}{3}x = 3</math>?</p>	<hr/>	<div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; margin: 0 auto;">1</div>
<p><b>34</b> Write <math>2^{-n}</math> with a positive index.</p>	<hr/>	<div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; margin: 0 auto;">1</div>
<p><b>35</b> Simplify <math>\frac{3m^2n \times m^2n}{m^3}</math>.</p>	<hr/>	<div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; margin: 0 auto;">1</div>

**End of Part A — Go on to Part B**

Total marks achieved for SECTION 2 — PART A

2!

### Instructions for SECTION 2 (PART B)

- This part consists of 3 questions each worth 5 marks
- Calculators may be used
- Time for this section is 20 minutes
- Show all necessary working
- Marks may be deducted for untidy or badly arranged work

	Questions	Answers	Mar
<b>36</b>	a A given straight line has the equation $2x + 3y = 14$ . What is the $y$ -value of the point on this line which has an $x$ value of 4?	_____	1
	b Expand and simplify $5a - 2(3a - 6)$ .	_____	1
	c Calculate the area of a rectangle with length 520 cm and width 300 cm. Give your answer in $\text{m}^2$ .	_____	1
	d Simplify $a^{\frac{1}{3}} \times \sqrt{a^3}$ .	_____	1
	e Solve $\frac{3a}{5} - 7 = a$ .	_____	1
<b>37</b>	a Solve algebraically the following pair of simultaneous equations: $3x - y = 8$ $x - y = 6$	_____	1

Continued on next page

Questions	Answers	Marks
<b>b</b> Make $P$ the subject of $3y = \sqrt{\frac{4x}{P}}$ .	_____	1
<b>c</b> Graph the solution to the following inequality on a number line: $\frac{2-3x}{2} \geq -8$ .	_____	1
<b>d</b> If $T = \frac{1}{M}(4M^2 + 3)$ determine the value of $T$ if $M = 10$ .	_____	1
<b>e</b> Find the general form of the equation of the straight line passing through the points $(1, 3)$ and $(2, 5)$ .	_____	1
<b>38 a</b> A shirt is marked at \$98.80. What would you pay if a $27\frac{1}{2}\%$ discount was allowed?	_____	1
<b>b</b> Calculate the tax payable on \$14 200 if \$870 is payable on the first \$11 000 and 30 cents for each dollar over \$11 000.	_____	2
<b>c</b> A car is sold for \$38 000. If this represented a profit of 20% on the cost price, what was the cost price?	_____	2
<b>End of Exam</b>		

Total marks achieved for SECTION 2 — PART B

15
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# Answers

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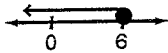
**PAGE 96** 1 B 2 C 3 C 4 A 5 ~~D~~<sup>C</sup> 6 A 7 C 8 C 9 D 10 C

**PAGE 97** 11 0.102 12 0.375 13 40% 14 34 15 9 16 140 seconds 17  $4.06 \times 10^{-4}$  18  $9a + 3ab$  19  $3ab(2a - 1)$  20  $x = 5.5$  21

22  $x < 2\frac{1}{5}$  23 \$90 24 8m 25  $\sqrt{5} - 7\sqrt{3}$

**PAGE 98** 26  $289^\circ$  27  $35^\circ$  28 \$70 29  ~~$5\sqrt{2} - \sqrt{6}$~~  <sup>$\sqrt{10}$</sup>  30  $\frac{7a}{12}$  31 11.5 32  $x = \frac{y-8}{2}$  33  $\frac{-2}{3}$  34  $\frac{1}{2^a}$  35  $3mn^2$

**PAGE 99** 36 a  $y = 2$  b  $-a + 12$  c  $15.6 \text{ m}^2$  d  $a^{\frac{11}{6}}$  e  $a = -17\frac{1}{2}$  37 a  $x = 1, y = -5$

**PAGE 100** 37 b  $P = \frac{4x}{9y^2}$  c  $x \leq 6$   d  $T = 40.3$  e  $2x - y + 1 = 0$  38 a \$71.63 b \$1830 c \$31 666.67