

The Sine and Cosine Rules *fluency*

ANSWERS



Use the sine rule to find the side. Give your answer to 1 dp.

Lengths are in cm.

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| <u>1</u> $A = 40^\circ, B = 65^\circ, a = 8, b = ?$ 11.3 | <u>2</u> $A = 52^\circ, C = 70^\circ, a = 12, c = ?$ 14.3 |
| <u>3</u> $B = 38^\circ, C = 81^\circ, c = 15, b = ?$ 9.4 | <u>4</u> $A = 75^\circ, B = 30^\circ, b = 6, a = ?$ 11.6 |
| <u>5</u> $B = 110^\circ, C = 25^\circ, b = 20, c = ?$ 9.0 | <u>6</u> $A = 33^\circ, C = 47^\circ, c = 9.5, a = ?$ 7.1 |



Use the sine rule to find the angle. It is acute. Give your answer to 1 dp.

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| <u>7</u> $a = 7, b = 9, A = 40^\circ, B = ?$ 55.7° | <u>8</u> $b = 12, c = 10, B = 70^\circ, C = ?$ 51.5° |
| <u>9</u> $a = 15, c = 11, A = 80^\circ, C = ?$ 46.2° | <u>10</u> $b = 6.5, a = 8, B = 35^\circ, A = ?$ 44.9° |
| <u>11</u> $c = 20, b = 14, C = 100^\circ, B = ?$ 43.6° | <u>12</u> $a = 9, b = 7, A = 63^\circ, B = ?$ 43.9° |



Use the cosine rule to find the side. Give your answer to 1 dp.

Lengths are in cm.

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| <u>13</u> $b = 5, c = 7, A = 60^\circ, a = ?$ 6.2 | <u>14</u> $a = 8, c = 6, B = 45^\circ, b = ?$ 5.7 |
| <u>15</u> $a = 10, b = 12, C = 110^\circ, c = ?$ 18.1 | <u>16</u> $b = 4.5, c = 9, A = 32^\circ, a = ?$ 5.7 |
| <u>17</u> $a = 14, c = 11, B = 75^\circ, b = ?$ 15.4 | <u>18</u> $a = 6, b = 6, C = 130^\circ, c = ?$ 10.9 |



Use the cosine rule to find the angle. Give your answer to 1 dp.

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| <u>19</u> $a = 7, b = 5, c = 6, A = ?$ 78.5° | <u>20</u> $a = 9, b = 12, c = 10, B = ?$ 78.1° |
| <u>21</u> $a = 4, b = 6, c = 8, C = ?$ 104.5° | <u>22</u> $a = 13, b = 8, c = 7, A = ?$ 120.0° |
| <u>23</u> $a = 5.5, b = 7, c = 3.5, B = ?$ 99.7° | <u>24</u> $a = 10, b = 10, c = 15, C = ?$ 97.2° |



Find the side or angle marked ? to 1 dp. Decide which rule to use.

Lengths are in cm.

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| <u>25</u> $A = 50^\circ, B = 60^\circ, a = 10, b = ?$ 11.3 | <u>26</u> $a = 6, b = 8, c = 11, C = ?$ 102.6° |
| <u>27</u> $b = 9, c = 13, A = 58^\circ, a = ?$ 11.2 | <u>28</u> $a = 15, b = 12, A = 44^\circ, B = ?$ 33.8° |
| <u>29</u> $a = 20, c = 16, B = 120^\circ, b = ?$ 31.2 | <u>30</u> $B = 28^\circ, C = 95^\circ, c = 7, b = ?$ 3.3 |