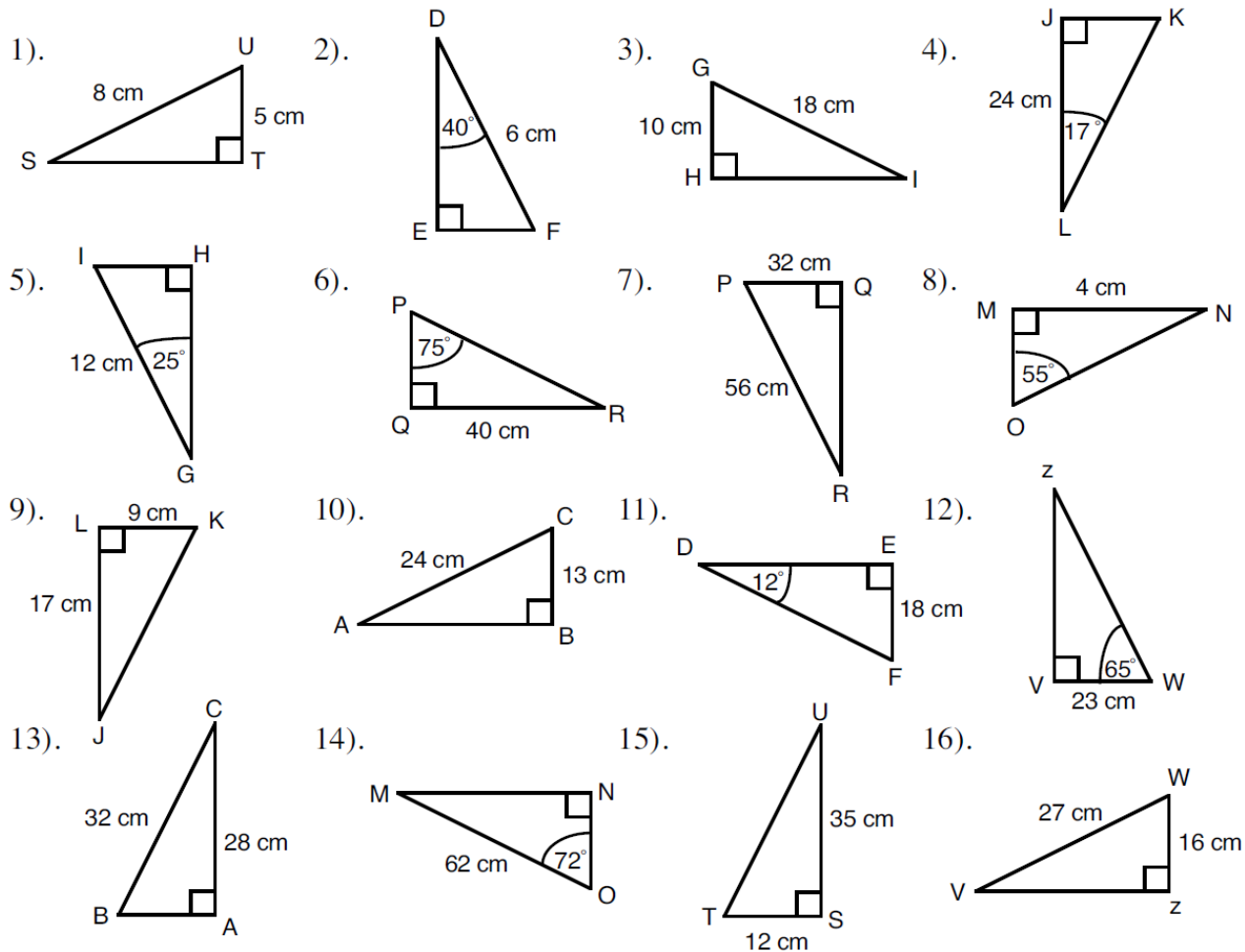


Section E – Calculator Topics

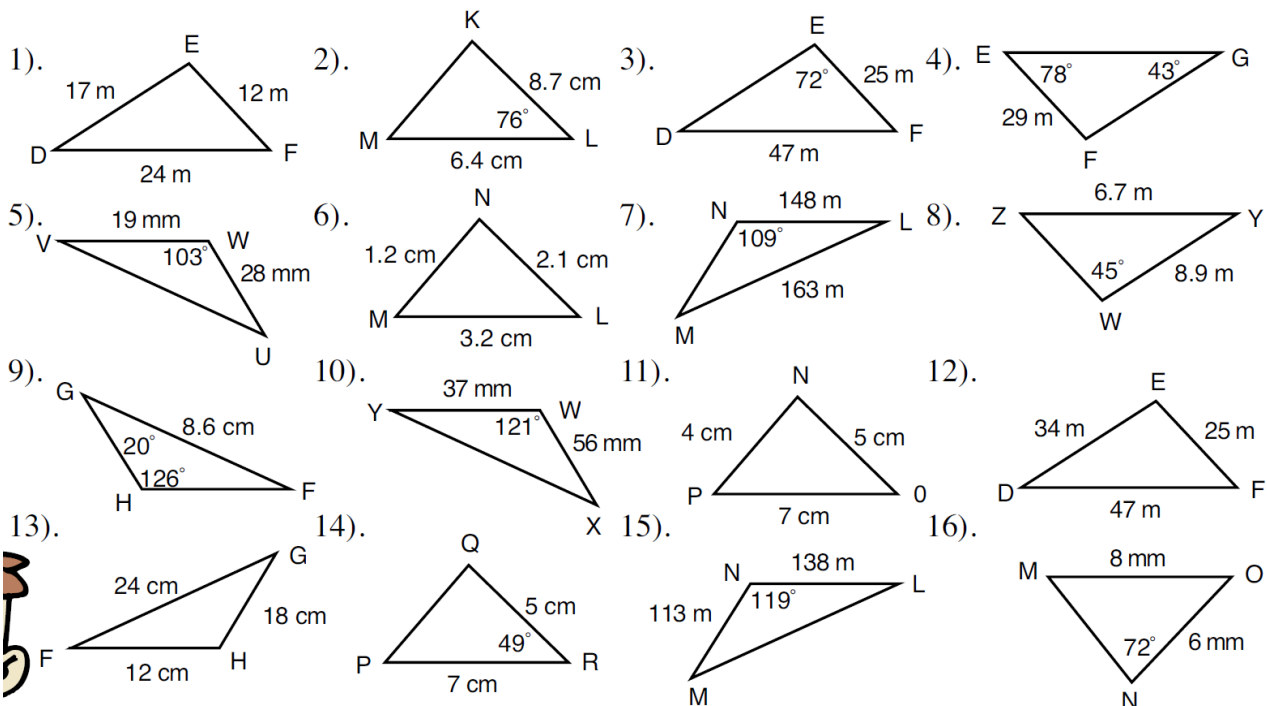
Right-Angled Triangle Trigonometry

In the following triangles find **all the missing angles and sides.**



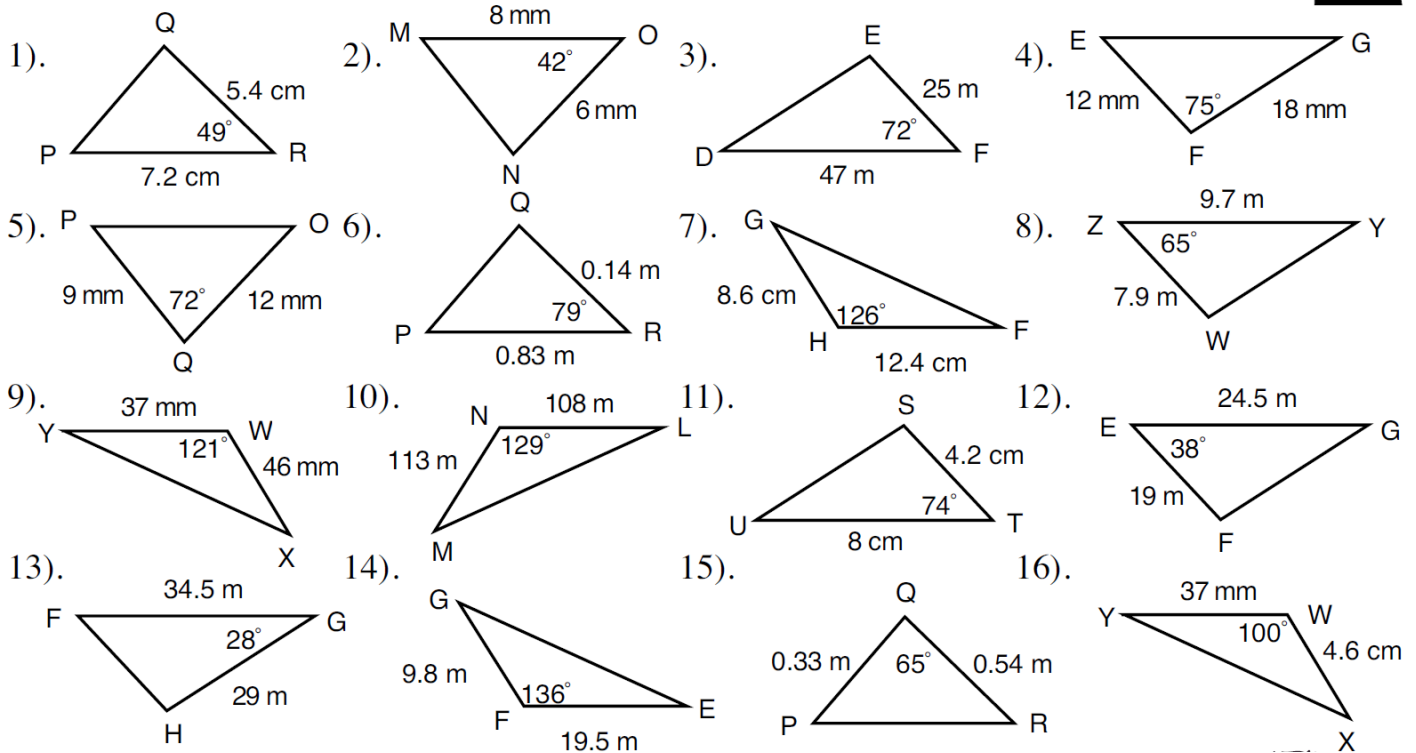
Sine and Cosine Rule

Using the most appropriate rule, find **all** the missing lengths and angles in each diagram. Give the answer to 1 decimal place. Diagrams not to scale.



Area of a Triangle

Find the areas of the following:



The Quadratic Formula

Solve the following quadratics using the above formula to 2 decimal places.

- | | | |
|--------------------------|---------------------------|---------------------------|
| 1). $x^2 + 6x + 4 = 0$ | 2). $x^2 + 5x + 3 = 0$ | 3). $x^2 + 2x - 5 = 0$ |
| 4). $x^2 - 10x + 8 = 0$ | 5). $x^2 + 12x + 10 = 0$ | 6). $x^2 + 7x + 4 = 0$ |
| 7). $2x^2 - 5x - 4 = 0$ | 8). $2x^2 + 9x + 3 = 0$ | 9). $3x^2 + 7x + 3 = 0$ |
| 10). $2x^2 - 3x - 1 = 0$ | 11). $5x^2 + 9x + 2 = 0$ | 12). $3x^2 + 2x - 3 = 0$ |
| 13). $5x^2 + x - 2 = 0$ | 14). $5x^2 + 8x + 2 = 0$ | 15). $2x^2 - 11x + 7 = 0$ |
| 16). $3y^2 + 6y - 7 = 0$ | 17). $4p^2 + 7p - 6 = 0$ | 18). $5a^2 + 9a + 2 = 0$ |
| 19). $b^2 + 2b - 5 = 0$ | 20). $q^2 - 15q + 8 = 0$ | 21). $2t^2 - t - 4 = 0$ |
| 22). $3w^2 - 5w - 8 = 0$ | 23). $2x^2 + 11x + 8 = 0$ | 24). $3r^2 + 8r + 3 = 0$ |
| 25). $5k^2 + 9k + 2 = 0$ | 26). $x^2 + 3x + 1 = 0$ | 27). $x^2 - 2x - 4 = 0$ |
| 28). $2x^2 + 7x - 3 = 0$ | 29). $3x^2 - 5x - 3 = 0$ | 30). $5x^2 + 3x - 3 = 0$ |

ANSWERS

Section E – Calculator Topics

Right-Angled Triangle Trigonometry

- | | | |
|--|---|---|
| 1). $38.7^\circ, 51.3^\circ, 6.2\text{cm}$ | 2). $50^\circ, 4.6\text{cm}, 3.9\text{cm}$ | 3). $56.3^\circ, 33.7^\circ, 15.0\text{cm}$ |
| 4). $73^\circ, 7.3\text{cm}, 25.1\text{cm}$ | 5). $65^\circ, 5.1\text{cm}, 10.9\text{cm}$ | 6). $15^\circ, 10.7\text{cm}, 41.4\text{cm}$ |
| 7). $55.2^\circ, 34.8^\circ, 46.0\text{cm}$ | 8). $35^\circ, 2.8\text{cm}, 4.9\text{cm}$ | 9). $27.9^\circ, 62.1^\circ, 19.2\text{cm}$ |
| 10). $32.8^\circ, 57.2^\circ, 20.2\text{cm}$ | 11). $78^\circ, 84.7\text{cm}, 86.6\text{cm}$ | 12). $25^\circ, 49.3\text{cm}, 54.4\text{cm}$ |
| 13). $29.0^\circ, 61.0^\circ, 15.5\text{cm}$ | 14). $18^\circ, 59.0\text{cm}, 19.2\text{cm}$ | 15). $71.1^\circ, 18.9^\circ, 37.0\text{cm}$ |
| 16). $53.7^\circ, 36.3^\circ, 21.7\text{cm}$ | | |

Sine and Cosine Rule

- | | |
|--|--|
| 1). $110.5^\circ, 27.9^\circ, 41.6^\circ$ | 2). $9.5\text{ cm}, 40.9^\circ, 63.1^\circ$ |
| 3). $48.3\text{ m}, 30.4^\circ, 77.6^\circ$ | 4). $36.4\text{ m}, 41.6\text{ m}, 59.0^\circ$ |
| 5). $37.2\text{ mm}, 47.2^\circ, 29.8^\circ$ | 6). $18.8^\circ, 150.6^\circ, 10.6^\circ$ |
| 7). $35.5\text{ m}, 59.1^\circ, 11.9^\circ$ | 8). $8.6\text{ m}, 69.9^\circ, 65.1^\circ$ |
| 9). $5.9\text{ cm}, 3.6\text{ cm}, 34.0^\circ$ | 10). $81.5\text{ mm}, 36.1^\circ, 22.9^\circ$ |
| 11). $101.6^\circ, 44.4^\circ, 34.0^\circ$ | 12). $104.6^\circ, 31.0^\circ, 44.6^\circ$ |
| 13). $29.0^\circ, 46.6^\circ, 104.5^\circ$ | 14). $5.3\text{ cm}, 85.6^\circ, 45.4^\circ$ |
| 15). $216.6\text{ m}, 33.9^\circ, 27.1^\circ$ | 16). $7.5\text{ mm}, 45.5^\circ, 62.5^\circ$ |

Area of a Triangle

- | | | | | | |
|------------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|
| 1) 14.7 cm^2 | 2) 16.1 mm^2 | 3) 558.7 m^2 | 4) 104.3 mm^2 | 5) 51.4 mm^2 | 6) 0.06 m^2 |
| 7) 43.1 cm^2 | 8) 34.7 m^2 | 9) 729 mm^2 | 10) 4742 m^2 | 11) 16.1 cm^2 | 12) 143.3 m^2 |
| 13) 234.9 m^2 | 14) 66.4 m^2 | 15) 0.08 m^2 | 16) 8.4 cm^2 | | |

The Quadratic Formula

- | | | | |
|---------------------|---------------------|---------------------|---------------------|
| 1). $-0.76, -5.24$ | 2). $-0.7, -4.3$ | 3). $1.45, -3.45$ | 4). $9.12, 0.88$ |
| 5). $-0.9, -11.1$ | 6). $-0.63, -6.37$ | 7). $3.14, -0.64$ | 8). $-0.36, -4.14$ |
| 9). $-0.57, -1.77$ | 10). $1.78, -0.28$ | 11). $-0.26, -1.54$ | 12). $0.72, -1.39$ |
| 13). $0.54, -0.74$ | 14). $-0.31, -1.29$ | 15). $4.77, 0.73$ | 16). $0.83, -2.83$ |
| 17). $0.63, -2.38$ | 18). $-0.26, -1.54$ | 19). $1.45, -3.45$ | 20). $14.45, 0.55$ |
| 21). $1.69, -1.19$ | 22). $2.67, -1.0$ | 23). $-0.86, -4.64$ | 24). $-0.45, -2.22$ |
| 25). $-0.26, -1.54$ | 26). $-0.38, -2.62$ | 27). $3.24, -1.24$ | 28). $0.39, -3.89$ |
| 29). $2.14, -0.47$ | 30). $0.53, -1.13$ | | |