Using Pythagoras' theorem to find a shorter side

| Question | x 10 6 | x 13 8 | $\frac{8}{5}$ x | 9 13 x | x 2.5 7 | x 9.2 |
|---------------------|--------------------|--------------------|-------------------|--------------------|---------------------|---------------------|
| Pythagoras' theorem | $10^2 = 6^2 + x^2$ | $13^2 = 8^2 + x^2$ | $8^2 = 5^2 + x^2$ | $13^2 = 9^2 + x^2$ | $7^2 = 2.5^2 + x^2$ | $9.2^2 = 7^2 + x^2$ |
| Calculate | $100 = 36 + x^2$ | $169 = 64 + x^2$ | $64 = 25 + x^2$ | $169 = 81 + x^2$ | $49 = 6.25 + x^2$ | $84.64 = 49 + x^2$ |
| Re-arrange | $x^2 = 100 - 36$ | $x^2 = 169 - 64$ | $x^2 = 64 - 25$ | $x^2 = 169 - 81$ | $x^2 = 49 - 6.25$ | $x^2 = 84.64 - 49$ |
| Sum | $x^2 = 64$ | $x^2 = 105$ | $x^2 = 39$ | $x^2 = 88$ | $x^2 = 42.75$ | $x^2 = 35.64$ |
| Square root | $x = \sqrt{64}$ | $x = \sqrt{105}$ | $x = \sqrt{39}$ | $x = \sqrt{88}$ | $x = \sqrt{42.75}$ | $x = \sqrt{35.64}$ |
| Solve | x = 8 | x = 10.2 | x = 6.2 | x = 9.4 | x = 6.5 | x = 6.0 |

Using Pythagoras' theorem to find a shorter side

| Question | x 10 6 | x 13 8 | $\frac{8}{5}$ x | 9 13 x | x 2.5 7 | x 9.2 |
|---------------------|--------------------|--------------------|-------------------|--------------------|---------------------|---------------------|
| Pythagoras' theorem | $10^2 = 6^2 + x^2$ | $13^2 = 8^2 + x^2$ | $8^2 = 5^2 + x^2$ | $13^2 = 9^2 + x^2$ | $7^2 = 2.5^2 + x^2$ | $9.2^2 = 7^2 + x^2$ |
| Calculate | $100 = 36 + x^2$ | $169 = 64 + x^2$ | $64 = 25 + x^2$ | $169 = 81 + x^2$ | $49 = 6.25 + x^2$ | $84.64 = 49 + x^2$ |
| Re-arrange | $x^2 = 100 - 36$ | $x^2 = 169 - 64$ | $x^2 = 64 - 25$ | $x^2 = 169 - 81$ | $x^2 = 49 - 6.25$ | $x^2 = 84.64 - 49$ |
| Sum | $x^2 = 64$ | $x^2 = 105$ | $x^2 = 39$ | $x^2 = 88$ | $x^2 = 42.75$ | $x^2 = 35.64$ |
| Square root | $x = \sqrt{64}$ | $x = \sqrt{105}$ | $x = \sqrt{39}$ | $x = \sqrt{88}$ | $x = \sqrt{42.75}$ | $x = \sqrt{35.64}$ |
| Solve | x = 8 | x = 10.2 | x = 6.2 | x = 9.4 | x = 6.5 | x = 6.0 |