**Solving Quadratic Equations**

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| Solve each of the following quadratic equations using an appropriate method. For non-integer solutions, give answers to 3sf. |
| $$x^{2}-9x+14=0$$ | $$2x^{2}+3x+1=0$$ | $$x^{2}+2x-8=0$$ | $$2x^{2}+6x+1=0$$ | $$x^{2}+10x+21=0$$ |
| $$x^{2}-x-6=0$$ | $$x^{2}-9x=0$$ | $$x^{2}-7x+2=0$$ | $$x^{2}+2x+1=0$$ | $$x^{2}-11x-60=0$$ |
| $$x^{2}-9=0$$ | $$2x^{2}-9x=0$$ | $$5x^{2}-2x-80=0$$ | $$5x^{2}-80=0$$ | $$5x^{2}+42x-80=0$$ |
| Find a quadratic equation that satisfies each of the following conditions. Can you generalise? |
| There are two integer solutions, one positive and one negative. | There are two solutions, but the equation cannot be solved by factorising. | There are two solutions and one of them is zero. | There are two fractional solutions, where one is twice the other. | The equation cannot be solved by any method (I know so far…) |