**Fundamentals to Practice Going into yr 11 (6)**

1. **Arithmetic**. Work out:
2. $+5-(+7)=$
3. $-4+\left(-6\right)=$
4. $\left(-5\right)×\left(-2\right)=$
5. $\left(+20\right)÷\left(-4\right)=$
6. **Percentages**. £500 are invested at a 2% compound interest rate per year. Assuming no cash in withdrawn, how much money will there be in the account after 5 years?
7. **Linear Algebra**. Find the equations of the line passing through $A\left(1, 4\right)$ and $B(3, 6)$:
8. **Quadratic Algebra.** Solve by using the quadratic formula ($x=\frac{-b\pm \sqrt{b^{2}-4ac}}{2a}$) . Give your answer to 2 decimal places.

$$3x^{2}+7x-5=0$$

1. **Volume and Area**. The formula to work out the volume of a sphere is $V=\frac{4}{3}πr^{3}$. Work out the radius of a sphere with volume $256 cm^{3}$. Give your answer to 3 significant figures.
2. **Pythagoras and Trig**. Find the value of $x$. Give your answer to 1 decimal place.

$$3x-5$$

$$x+1$$

$$2x-4$$

1. **Statistics and Probability.** Data about the height of 30 tomato plants are summarised in the table below. Draw a cumulative frequency graph and use it to estimate the median and interquartile range.

|  |  |
| --- | --- |
| **Height,** $h $**(cm)** | **Frequency** |
| $$20\leq h<30$$ | 2 |
| $$30\leq h<40$$ | 8 |
| $$40\leq h<50$$ | 10 |
| $$60\leq h<70$$ | 7 |
| $$70\leq h<80$$ | 3 |



