***National 5 Revision***

1. 1. The formula for the circumference of a circle is $ C=πD$. Rearrange tis formula to find the diameter when given the area.
	2. The formula for the area of a circle is$ A=πr^{2}$. Rearrange tis formula to find the radius when given the area.
	3. To change from $℃$ to $℉$ we use the formula $℉=\frac{9℃}{5}+32.$ What would be the formula to change from $℃$ to $℉$.
	4. Einstein used the formula $e=mc^{2}$ to calculate energy dependant on mass $(m)$ and speed of light $(c)$. How could he calculate the speed of light given the mass and the energy produce?
2. Expand the following and collect like terms:
	1. $\left(2x-5\right)^{2}$ b. $(4x-1)(x+2)(2x-3)$ c. $\left(5x-2\right)^{2}(3x-2)$
3. $\left(2x+1\right)\left(2x-1\right)$ e. $\left(3x-2\right)^{2}$ f. $3x\left(3x-1\right)^{2}$
4. Evaluate the following expressions when $x=2\frac{1}{2}, y=\frac{2}{3}$ and $z=\frac{3}{4}$.
	1. $4x+5y$ b. $2x+ 3z$ c. $\left(x+y\right)^{2}$
5. $2\frac{1}{2}\left(z-y\right)$ e. $\left(y\right)^{7}$ f. $\left(x+y+7\right)^{2}$
6. Solve :
	1. $\frac{4}{5}x+3.5=4.2x-\frac{1}{2}$ b. $0.6x+5.3\leq \frac{3}{4}x-7.9$ c. $15.5\leq 5.4x-3.75$
7. $2.15x-5.6=12$ e. $4.5x^{2}-18=0$ f. $5x^{2}=1.25$
8. Find:
9. A car is valued at £12 000. It has decreased in value by 25% since bought. How much is it worth now?
10. A limited-edition pack states that it contains 20% extra than the original. If the limited-edition package weighs 450g, how much does the standard pack weigh?
11. Find:
12. $\frac{4}{5}of \left(3\frac{1}{2}-1\frac{3}{4}\right)$ b. $\left(4\frac{2}{3}-5\frac{1}{2}\right)^{3}$ c. $\left(4.5-2\frac{2}{3}\right)\left(6.7-5.15\right)$