1) If the sum of q,r, and s is 126. q=3r. s=3r. What is the value of r?

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$q+r+s=126 \quad q=3r \quad s=3r$

$3r+r+3r=126$

$7r=126$

$r=18$

2) If r=3x, s=4x, t=6x, and x>0. Which of the following is the greatest?

A) r/s B) r/t C) s/r D) t/s E) t/r

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$r=3x \quad s=4x \quad t=6x \quad x>0$

A) $\frac{r}{s}=\frac{3x}{4x}=\frac{3}{4}$

B) $\frac{r}{t}=\frac{3x}{6x}=\frac{1}{2}$

C) $\frac{s}{r}=\frac{4}{3}$

D) $\frac{t}{s}=\frac{6x}{4x}=\frac{3}{2}$

E) $\frac{t}{r}=2$

3) John is now x years old. His sister Ann is now twice as old as John was 2 years ago. In terms of x, what is Ann's age now?

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$A = 2(x-2)$

$A = 2x-4$

4) If $x = 5^y$ and $y = z + 1$, what is $x/5$ in terms of z?

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$X = 5^y \qquad y = z + 1$

$X = 5^{z+1}$

$\frac{X}{5} = \frac{5^{z+1}}{5} = 5^{z+1-1} = 5^z$