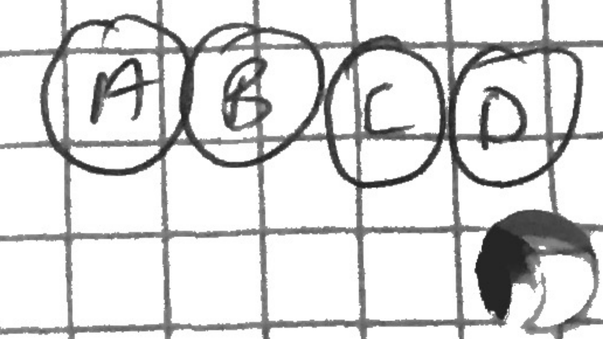
Number of teeth Per Gear					
	A (n_{in})	B	C	D	
n (teeth)	20	40	30	40	
	B:A	C:B	D:C		
GR Reduced	40:20	30:40	40:30	Product of frac.	final GR
	2:1	3:4	4:3		
GR as Fractions	$\frac{2}{1}$	$\frac{3}{4}$	$\frac{4}{3}$	2	2:1



Simple Gear Train Conclusion

1. A will rotate twice as fast, same ratio to the final
2. If 10.0 ft-lb of torque is applied at gear A, then what is the output gear D?

$GR = \frac{t_{out}}{t_{in}}$ $\frac{2}{1} = \frac{10}{x}$ $\frac{10}{2} = \frac{2x}{2}$ $\frac{x}{10} = \frac{2}{1}$ $x = 20$ 20 ft-lb

3. Make gears A & D rotate the same add 1 more gear in before D
4. What will the gear ratio be if A is connected directly to D?

2:1

*5. How does the GR between A and D compare to the entire system?

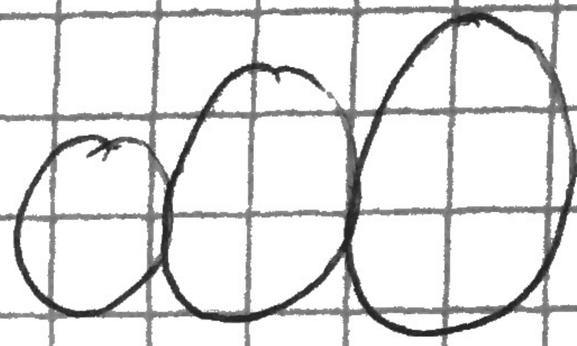
They are equal

6. If D is the final output, or where the load is attached, then how did gears B and C impact the system

Cont. the torque from A to D

1 Morgues

# of teeth Per Gear				
	A(Pin)	B	C	D
n(teeth)	30	40	20	40
	B:A	D:C		
GR	40:30	40:20		
Reduced	4:3	2:1		
GR as Frac.	$\frac{4}{3}$	$\frac{4}{2} = \frac{2}{1}$	Prod of Frac	Final GR
			8/3	8:3



Compound Gear Train Conclusion

7. How many times will gear Rotate compared to gear D

3:4

8. If 7.0 Ft-lb of Torque is applied at gear A, the what is the output at gear D?

$GR = \frac{T_{out}}{T_{in}}$ $\quad \frac{x}{7} = \frac{8}{3}$ $\quad \frac{56}{3} = \frac{3x}{3}$ $\quad 18.67$ Ft-lb

9. Why might compound gear trains be better than 2 gears alone?

It can turn two different things

10. An application of a GGT

2 or more gears to transmit motion → Trans