SID	OID	SID/SOD	What is the estimated magnification?
72"	2"	72/70	1.02
60"	3"	60/57	1.05
48"	4"	48/44	1.09
40"	5"	40/35	1.14

1. 20 MAS, 80 KVP, 40" SID, 8:1 GRID
   ? 80 KVP, 72" SID, NO GRID
   17 MAS

20 MAS ÷ 4 = 5 MAS $\frac{X}{5} = \frac{(72)^2}{(40)^2}\frac{5184}{1600}$

$\frac{1600x}{1600} = \frac{25920}{1600} = 16.2$

2. 30 MAS, 75 KVP, 40" SID, NO GRID
   ? 75 KVP, 80" SID, 5:1 GRID
   240 MAS

3. 100 MAS, 70 KVP, 5:1 GRID, 40", 100 RS
   ? 80 KVP, 12:1 GRID, 60", 400 RS
   70 MAS

4. 40 MAS, 80 KVP, 8:1 GRID, 40", 200 RS
   ? MAS, 92 KVP, 16:1 GRID, 72", 100 RS
   195 MAS

Of the following sets of technical factors will produce the **GREATEST** density?

	mA	Time	SID	kVp	Grid Ratio	Screen Speed System
(a.)	40	800	.05	40"	8:1	400
~~b.~~	30	300	.1	~~76~~	12:1	200
~~c.~~	30	200	.15	40" ~~72~~	10:1	200
d.	40	100	.4	60" 78	~~16:1~~	~~100~~

Highest mAs, KVP, R/S
Lowest Grid ratio

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(2) Grid: 30 × 2 = 60 MAS × 4 (double distance) = 240 MAS

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(3) Grid: $\frac{100}{x} = \frac{2}{5}$ = 250 MAS ÷ 2 = 125 MAS KVP

R/S: $\frac{125}{x} = \frac{4}{1}$ = 31.25 MAS Distance: $\frac{X}{32} = \frac{(4)^2}{(4)^2}\frac{36}{16}$

$\frac{16x}{16} = \frac{1,125}{16}$ = 70 MAS

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(4) Grid: $\frac{40 \text{ MAS}}{x}\ \frac{4}{4}$ = 40 MAS ÷ 2 = 30 MAS KVP

R/S: $\frac{30 \text{ MAS}}{x} = \frac{1}{2}$ = 60 MAS SID: $\frac{X}{60} = \frac{(72)^2}{(40)^2}\frac{5184}{1600}$

195 MAS