

Final Exam Math Review

- 1. 5rem = _____ mrem
- 2. 5rem = _____ Sv
- 3. 0.05Sv = _____ mSv
- 4. 50 rem = _____ mSv
- 5. 1.25 rem = _____ mSv
- 6. 100mrem = _____ mSv

- 1. MAINTAIN SAME OD
80 KVP , 50 MAS,
94 ?
- 2. MAINTAIN SAME OD
80 KVP, 50 MAS,
? 100 MAS
- 3. CHEST RADIOGRAPH: double OD &
want longer scale contrast
5 MAS, 85 KVP,
? Mas KVP ,
- 4. ABD RADIOGRAPH: too dark (½ OD)
35 MAS, 85 KVP,
? 85 KVP,
- 5. 20 MAS, 80 KVP, (4x too dark)
? , 80 KVP
- 6. MAINTAIN SAME OD
20 MAS, 80 KVP,
? ,68 KVP,

1. During a fluoroscopy exam the Technologists exposure rate is 6 mR/hr. The fluoro time was 30 minutes. What is the technologist's total exposure? _____

2. During a fluoroscopy exam the Technologists exposure rate is 8 mR/hr at 4 feet from the patient. What is the exposure rate if the technologist moves to 1 foot from the patient? _____

3. During a fluoroscopy exam the Technologists exposure rate is 2 mR/hr at 6 feet from the patient. The technologist remains at 6 feet for 8 minutes of fluoro then moves to 1 foot for 2 minutes of fluoro. What is the total exposure for the Technologist? _____

4. What is the ESE for a small bowel series?
6 abdominal radiographs at 90 kVp, 18 mAs and a 40" SID = 3.4 mR/mAs _____

5. The technologist received 50 mr of exposure at 1 foot for 5 min of the exam, then moved 5 feet from the patient and remained an additional 5 minutes. How much exposure did the technologist receive for this procedure when they moved to the new distance? _____
& What was the TOTAL exposure for the exam? _____

SID OID

What is the estimated magnification?

72" 2"

60" 3"

48" 4"

40" 5"

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

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

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

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

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

	<i>mA</i>	<i>Time</i>	<i>SID</i>	<i>kVp</i>	<i>Grid Ratio</i>	<i>Screen Speed System</i>
a.	800	.05	40"	80	8:1	400
b.	300	.1	72"	76	12:1	200
c.	200	.15	40"	72	10:1	200
d.	100	.4	60"	78	16:1	100