



# Equivalent Dose $H = DW_r$

<p>1 A nuclear power workers leg receives an absorbed dose of 6 <math>\mu\text{Gy}</math> with slow neutrons which have a radiation weighting factor = 5. Find the equivalent dose.</p>  <p>30 <math>\mu\text{Sv}</math></p>	<p>2 A radiographer`s hand receives an absorbed dose of 4 mGy from beta particles which have a radiation weighting factor = 1. Find the equivalent dose.</p>  <p><math>4 \times 10^{-3} \text{ Sv}</math></p>	<p>3 A fireman`s foot receives an absorbed dose of 3 <math>\mu\text{Gy}</math> from fast neutrons which have a radiation weighting factor = 20. Find the equivalent dose.</p> <p>60 <math>\mu\text{Sv}</math></p>				
<p>4 The risk of biological <b>harm</b> from radiation depends on 3 factors. These 3 factors are:</p>	<p>5 An engineer receives absorbed doses of 2 mGy from beta particles and 4 mGy from slow neutrons. The radiation weighting factors for beta particles = 1 and for slow neutrons = 5. Find the total equivalent dose.</p> <p>22 mSv</p>	<p>6 State what is meant by <b>biological harm</b> from radiation.</p>				
<p>7 Fill in the correct units for these quantities;</p> <table border="1" data-bbox="94 1148 614 1308"> <tbody> <tr> <td>absorbed dose</td> <td></td> </tr> <tr> <td>equivalent dose</td> <td></td> </tr> </tbody> </table>	absorbed dose		equivalent dose		<p>8 A doctor receives an equivalent dose of 2 <math>\mu\text{Sv}</math> from fast neutrons which have radiation factor 10. Find her <b>absorbed dose</b>.</p> <p>0.2 <math>\mu\text{Gy}</math></p>	<p>9 A nuclear worker receives an equivalent dose of 20 mSv over a year due to exposure to x-rays. x-rays have a radiation weighting factor = 1 Find his <b>absorbed dose</b> over the year.</p> <p>20 mGy</p>
absorbed dose						
equivalent dose						