LINES - ANSWERS

Find parametric equations for the following lines and line segments. Be sure to state the range of values for your parameter.

1. The line segment from $P = (1,2,3)$ to $Q = (8,6,8)$.

$x = 1 + 7t$
$y = 2 + 4t$
$z = 3 + 5t$
$0 \le t \le 1$

2. The line through $P = (1,2,3)$ and $Q = (8,6,8)$.

$x = 1 + 7t$
$y = 2 + 4t$
$z = 3 + 5t$
$-\infty < t < \infty$

3. The line segment from $Q = (8,6,8)$ to $P = (1,2,3)$.

$x = 8 - 7t$
$y = 6 - 4t$
$z = 8 - 5t$
$0 \le t \le 1$

4. The line segment from $P = (2,-3,5)$ to $Q = (-4,-1,0)$.

$x = 2 - 6t$
$y = -3 + 2t$
$z = 5 - 5t$
$0 \le t \le 1$

5. The line through $P = (4,6,8)$ and $Q = (-4,-6,-8)$.

$x = 4 - 8t$
$y = 6 - 12t$
$z = 8 - 16t$
$-\infty < t < \infty$