

Harvey Mudd College

Name: \_\_\_\_\_

CS 105, Computer Systems, Fall 2012

QUIZ 9 — CLOSED BOOK, CLOSED NOTES

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Given a 32-bit virtual address space and a 24-bit physical address, determine the number of bits in the VPN, VPO, PPN, and PPO for the following page sizes  $P$ :

$P$	VPN bits	VPO bits	PPN bits	PPO bits
1 KB	<u>22</u>	<u>10</u>	<u>14</u>	<u>10</u>
2 KB	<u>21</u>	<u>11</u>	<u>13</u>	<u>11</u>
4 KB	<u>20</u>	<u>12</u>	<u>12</u>	<u>12</u>
8 KB	<u>19</u>	<u>13</u>	<u>11</u>	<u>13</u>