

Question	Answers/s	Model/s
1. int $a = 10$; int $b = 20$; $a = b$;	$a = 20$ $b = 0$	M1
	$a = 20$ $b = 20$	M2
	$a = 0$ $b = 10$	M3
	$a = 10$ $b = 10$	M4
	$a = 30$ $b = 20$	M5
	$a = 30$ $b = 0$	M6
	$a = 10$ $b = 30$	M7
	$a = 0$ $b = 30$	M8
	$a = 10$ $b = 20$	M9
	$a = 20$ $b = 10$	M11
	$a = 20$ $b = 20$ $a = 10$ $b = 10$	M10
2. int $a = 10$; int $b = 20$; $b = a$;	$a = 0$ $b = 10$	M1
	$a = 10$ $b = 10$	M2
	$a = 20$ $b = 0$	M3
	$a = 20$ $b = 20$	M4
	$a = 10$ $b = 30$	M5
	$a = 0$ $b = 30$	M6
	$a = 30$ $b = 20$	M7
	$a = 30$ $b = 0$	M8
	$a = 10$ $b = 20$	M9
	$a = 20$ $b = 10$	M11
	$a = 20$ $b = 20$ $a = 10$ $b = 10$	M10

Question	Answers/s	Model/s
3. int big = 10; int small = 20; big = small;	big=20 small=0	M1
	big=20 small=20	M2
	big=0 small=10	M3
	big=10 small=10	M4
	big=30 small=20	M5
	big=30 small=0	M6
	big=10 small=30	M7
	big=0 small=30	M8
	big=10 small=20	M9
	big=20 small=10	M11
big=20 small=20 big=10 small=10	M10	
4. int a = 10; int b = 20; a = b; b = a;	a = 0 b = 20	M1+S1
	a = 20 b = 10	(M1+S3)/(M2+S3)/(M3+S3)/ (M4+S3)/ (M11+S3)
	a = 30 b = 30	(M5+S3)/(M6+S3)/(M7+S3)/
	a = 20 b = 20	M2+S1
	a = 10 b = 0	M3+S1
	a = 10 b = 10	M4+S1
	a = 30 b = 50	M5+S1
	a = 0 b = 30	M6+S1
	a = 40 b = 30	M7+S1
	a = 30 b = 0	M8+S1
	a = 10 b = 20	(M9+S1)/(M11+S1)
		(M8+S3)
	a = 20 b = 20	(M10+S1)/(M2+S2)/(M4+S2)
	a = 10 b = 10	
	a = 20 b = 0	(M1+S2)/(M3+S2)
	a = 0 b = 10	
a = 30 b = 0	(M5+S2)/(M7+S2)	
a = 0 b = 30		
a = 30 b = 20	(M6+S2)/(M8+S2)	
a = 10 b = 30		
a = 20 b = 10	(M11+S2)	
a = 20 b = 10		

Question	Answers/s	Model/s
<p>5.</p> <pre>int a = 10; int b = 20; a = b; b = a;</pre>	$a = 10$ $b = 0$	M1+S1
	$a = 20$ $b = 10$	(M1+S3)/(M2+S3)/(M3+S3)/ (M4+S3)
	$a = 10$ $b = 10$	M2+S1
	$a = 0$ $b = 20$	M3+S1
	$a = 20$ $b = 20$	M4+S1
	$a = 40$ $b = 30$	M5+S1
	$a = 30$ $b = 30$	(M5+S3)/(M6+S3)/(M7+S3)/ (M8+S3)
	$a = 30$ $b = 0$	M6+S1
	$a = 30$ $b = 50$	M7+S1
	$a = 0$ $b = 30$	M8+S1
	$a = 10$ $b = 20$	(M9+S1)/(M11+S1)/ (M11+S3)
	$a = 20$ $b = 20$ $a = 10$ $b = 10$	(M10+S1)/(M2+S2)/(M4+S2)
	$a = 0$ $b = 10$ $a = 20$ $b = 0$	(M1+S2)/M3+S2)
	$a = 30$ $b = 20$ $a = 10$ $b = 30$	(M5+S2)/(M7+S2)
	$a = 0$ $b = 30$ $a = 30$ $b = 0$	(M6+S2)/(M8+S2)
	$a = 10$ $b = 20$ $a = 10$ $b = 20$	(M11+S2)

Question	Answers/s	Model/s
6. int $a = 10$; int $b = 20$; int $c = 30$; $a = b$; $b = c$;	$a = 20$ $b = 30$ $c = 0$	M1+S1
	$a = 20$ $b = 30$ $c = 30$	(M2+S1)/(M2+S3)/(M1+S3)
	$a = 0$ $b = 0$ $c = 10$	M3+S1
	$a = 10$ $b = 10$ $c = 10$	M4+S1
	$a = 10$ $b = 10$ $c = 20$	(M3+S3)/(M4+S3)/(M6+S3)
	$a = 30$ $b = 50$ $c = 30$	(M5+S1)/(M5+S3)
	$a = 30$ $b = 30$ $c = 0$	M6+S1
	$a = 10$ $b = 30$ $c = 60$	M7+S1
	$a = 0$ $b = 0$ $c = 60$	M8+S1
	$a = 10$ $b = 30$ $c = 50$	(M7+S3)/(M8+S3)
	$a = 10$ $b = 20$ $c = 30$	M9+S1
	$a = 20$ $b = 30$ $c = 10$	(M11+S1)/(M11+S3)
	$a = 10$ $b = 10$ $c = 10$	M10+S1
	$a = 20$ $b = 20$ $c = 20$	
	$a = 30$ $b = 30$ $c = 30$	
	$a = 20$ $b = 0$ $c = 30$	(M1+S2)
	$a = 10$ $b = 30$ $c = 0$	
	$a = 20$ $b = 20$ $c = 30$	(M2+S2)
	$a = 10$ $b = 30$ $c = 30$	
	$a = 0$ $b = 10$ $c = 30$	(M3+S2)
	$a = 10$ $b = 0$ $c = 20$	
	$a = 10$ $b = 10$ $c = 30$	(M4+S2)
$a = 10$ $b = 20$ $c = 20$		
$a = 30$ $b = 20$ $c = 30$	(M5+S2)	
$a = 10$ $b = 50$ $c = 30$		
$a = 30$ $b = 0$ $c = 30$	(M6+S2)	
$a = 10$ $b = 50$ $c = 0$		
$a = 10$ $b = 30$ $c = 30$	(M7+S2)	
$a = 10$ $b = 20$ $c = 50$		
$a = 0$ $b = 30$ $c = 30$	(M8+S2)	
$a = 10$ $b = 0$ $c = 50$		
$a = 20$ $b = 10$ $c = 30$	(M11+S2)	
$a = 10$ $b = 30$ $c = 20$		

Question	Answers/s	Model/s	
<p>7.</p> <pre>int a = 5; int b = 3; int c = 7; a = c; b = a; c = b;</pre>	$a = 0 \quad b = 0 \quad c = 7$	M1	
	$a = 7 \quad b = 5 \quad c = 3$	(M1+S3)/(M2+S3)/(M11+S3)	
	$a = 7 \quad b = 7 \quad c = 7$	M2	
	$a = 3 \quad b = 5 \quad c = 0$	M3	
	$a = 3 \quad b = 5 \quad c = 5$	M4	
	$a = 3 \quad b = 7 \quad c = 5$	(M3+S3)/(M4+S3)	
	$a = 12 \quad b = 15 \quad c = 22$	M5	
	$a = 12 \quad b = 8 \quad c = 10$	(M5+S3)/(M6+S3)	
	$a = 0 \quad b = 0 \quad c = 15$	M6	
	$a = 8 \quad b = 15 \quad c = 12$	M7	
	$a = 8 \quad b = 10 \quad c = 12$	(M7+S3)/(M8+S3)	
	$a = 3 \quad b = 12 \quad c = 0$	M8	
	$a = 5 \quad b = 3 \quad c = 7$	M9	
	$a = 3 \quad b = 5 \quad c = 7$	M11	
	$a = 5 \quad b = 5 \quad c = 5$	M10	
	$a = 3 \quad b = 3 \quad c = 3$		
	$a = 7 \quad b = 7 \quad c = 7$		
	$a = 7 \quad b = 3 \quad c = 0$	(M1+S2)	
	$a = 0 \quad b = 5 \quad c = 7$		
	$a = 5 \quad b = 0 \quad c = 3$		
	$a = 7 \quad b = 3 \quad c = 7$	(M2+S2)	
	$a = 5 \quad b = 5 \quad c = 7$		
	$a = 5 \quad b = 3 \quad c = 3$		
	$a = 0 \quad b = 3 \quad c = 5$	(M3+S2)	
	$a = 3 \quad b = 0 \quad c = 7$		
	$a = 5 \quad b = 7 \quad c = 0$		
	$a = 5 \quad b = 3 \quad c = 5$	(M4+S2)	
	$a = 3 \quad b = 3 \quad c = 7$		
	$a = 5 \quad b = 7 \quad c = 7$		
$a = 12 \quad b = 3 \quad c = 7$	(M5+S2)		
$a = 5 \quad b = 8 \quad c = 7$			
$a = 5 \quad b = 3 \quad c = 10$			
$a = 12 \quad b = 3 \quad c = 0$	(M6+S2)		
$a = 0 \quad b = 8 \quad c = 7$			
$a = 5 \quad b = 0 \quad c = 10$			
$a = 5 \quad b = 3 \quad c = 12$	(M7+S2)		
$a = 8 \quad b = 3 \quad c = 7$			
$a = 5 \quad b = 10 \quad c = 7$			
$a = 0 \quad b = 3 \quad c = 12$	(M8+S2)		
$a = 8 \quad b = 0 \quad c = 7$			
$a = 5 \quad b = 10 \quad c = 0$			
$a = 7 \quad b = 3 \quad c = 5$	(M11+S2)		
$a = 3 \quad b = 5 \quad c = 7$			
$a = 5 \quad b = 7 \quad c = 3$			

Question	Answers/s	Model/s
8. int $a = 5$; int $b = 3$; int $c = 7$; $c = b$; $b = a$; $a = c$;	$a = 3$ $b = 5$ $c = 0$	M1
	$a = 7$ $b = 5$ $c = 3$	$(M1+S3)/(M2+S3)/(M11+S3)$
	$a = 3$ $b = 5$ $c = 3$	M2
	$a = 0$ $b = 0$ $c = 7$	M3
	$a = 7$ $b = 7$ $c = 7$	M4
	$a = 3$ $b = 7$ $c = 5$	$(M3+S3)/(M4+S3)$
	$a = 15$ $b = 8$ $c = 10$	M5
	$a = 12$ $b = 8$ $c = 10$	$(M5+S3)/(M6+S3)$
	$a = 10$ $b = 5$ $c = 0$	M6
	$a = 15$ $b = 10$ $c = 22$	M7
	$a = 8$ $b = 10$ $c = 12$	$(M7+S3)/(M8+S3)$
	$a = 0$ $b = 0$ $c = 15$	M8
	$a = 5$ $b = 3$ $c = 7$	M9
	$a = 3$ $b = 5$ $c = 7$	M11
	$a = 5$ $b = 5$ $c = 5$	M10
	$a = 3$ $b = 3$ $c = 3$	
	$a = 7$ $b = 7$ $c = 7$	
	$a = 5$ $b = 0$ $c = 3$	$(M1+S2)$
	$a = 0$ $b = 5$ $c = 7$	
	$a = 7$ $b = 3$ $c = 0$	
	$a = 5$ $b = 3$ $c = 3$	$(M2+S2)$
	$a = 5$ $b = 5$ $c = 7$	
	$a = 7$ $b = 3$ $c = 7$	
	$a = 5$ $b = 7$ $c = 0$	$(M3+S2)$
	$a = 3$ $b = 0$ $c = 7$	
$a = 0$ $b = 3$ $c = 5$		
$a = 5$ $b = 7$ $c = 7$	$(M4+S2)$	
$a = 3$ $b = 3$ $c = 7$		
$a = 5$ $b = 3$ $c = 5$		
$a = 5$ $b = 3$ $c = 10$	$(M5+S2)$	
$a = 5$ $b = 8$ $c = 7$		
$a = 12$ $b = 3$ $c = 7$		
$a = 5$ $b = 0$ $c = 10$	$(M6+S2)$	
$a = 0$ $b = 8$ $c = 7$		
$a = 12$ $b = 3$ $c = 0$		
$a = 5$ $b = 10$ $c = 7$	$(M7+S2)$	
$a = 8$ $b = 3$ $c = 7$		
$a = 5$ $b = 3$ $c = 12$		
$a = 5$ $b = 10$ $c = 0$	$(M8+S2)$	
$a = 8$ $b = 0$ $c = 7$		
$a = 0$ $b = 3$ $c = 12$		
$a = 5$ $b = 7$ $c = 3$	$(M11+S2)$	
$a = 3$ $b = 5$ $c = 7$		
$a = 7$ $b = 3$ $c = 5$		

Question	Answers/s	Model/s
9. int $a = 5$; int $b = 3$; int $c = 7$; $c = b$; $a = c$; $b = a$; 	$a = 0$ $b = 3$ $c = 5$	M1
	$a = 7$ $b = 5$ $c = 3$	(M1+S3)/(M2+S3)/(M11+S3)
	$a = 3$ $b = 3$ $c = 3$	M2
	$a = 7$ $b = 0$ $c = 5$	M3
	$a = 7$ $b = 7$ $c = 5$	M4
	$a = 3$ $b = 7$ $c = 5$	(M3+S3)/(M4+S3)
	$a = 15$ $b = 18$ $c = 10$	M5
	$a = 12$ $b = 8$ $c = 10$	(M5+S3)/(M6+S3)
	$a = 0$ $b = 15$ $c = 0$	M6
	$a = 15$ $b = 10$ $c = 12$	M7
	$a = 8$ $b = 10$ $c = 12$	(M7+S3)/(M8+S3)
	$a = 10$ $b = 0$ $c = 5$	M8
	$a = 5$ $b = 3$ $c = 7$	M9
	$a = 7$ $b = 3$ $c = 5$	M11
	$a = 5$ $b = 5$ $c = 5$	M10
	$a = 3$ $b = 3$ $c = 3$	
	$a = 7$ $b = 7$ $c = 7$	
	$a = 5$ $b = 0$ $c = 3$	(M1+S2)
	$a = 7$ $b = 3$ $c = 0$	
	$a = 0$ $b = 5$ $c = 7$	
	$a = 5$ $b = 3$ $c = 3$	(M2+S2)
	$a = 7$ $b = 3$ $c = 7$	
	$a = 5$ $b = 5$ $c = 7$	
	$a = 5$ $b = 7$ $c = 0$	(M3+S2)
	$a = 0$ $b = 3$ $c = 5$	
$a = 3$ $b = 0$ $c = 7$		
$a = 5$ $b = 7$ $c = 7$	(M4+S2)	
$a = 5$ $b = 3$ $c = 5$		
$a = 3$ $b = 3$ $c = 7$		
$a = 5$ $b = 3$ $c = 10$	(M5+S2)	
$a = 12$ $b = 3$ $c = 7$		
$a = 5$ $b = 8$ $c = 7$		
$a = 5$ $b = 0$ $c = 10$	(M6+S2)	
$a = 12$ $b = 3$ $c = 0$		
$a = 0$ $b = 8$ $c = 7$		
$a = 5$ $b = 10$ $c = 7$	(M7+S2)	
$a = 5$ $b = 3$ $c = 12$		
$a = 8$ $b = 3$ $c = 7$		
$a = 5$ $b = 10$ $c = 0$	(M8+S2)	
$a = 0$ $b = 3$ $c = 12$		
$a = 8$ $b = 0$ $c = 7$		
$a = 5$ $b = 7$ $c = 3$	(M11+S2)	
$a = 7$ $b = 3$ $c = 5$		
$a = 3$ $b = 5$ $c = 7$		

Question	Answers/s	Model/s
10. int $a = 5$; int $b = 3$; int $c = 7$; $b = a$; $c = b$; $a = c$;	$a = 5$ $b = 0$ $c = 0$	M1
	$a = 7$ $b = 5$ $c = 3$	$(M1+S3)/(M2+S3)/(M11+S3)$
	$a = 5$ $b = 5$ $c = 5$	M2
	$a = 0$ $b = 7$ $c = 3$	M3
	$a = 3$ $b = 7$ $c = 3$	M4
	$a = 3$ $b = 7$ $c = 5$	$(M3+S3)/(M4+S3)$
	$a = 20$ $b = 8$ $c = 15$	M5
	$a = 12$ $b = 8$ $c = 10$	$(M5+S3)/(M6+S3)$
	$a = 15$ $b = 0$ $c = 0$	M6
	$a = 8$ $b = 10$ $c = 15$	M7
	$a = 8$ $b = 10$ $c = 12$	$(M7+S3)/(M8+S3)$
	$a = 0$ $b = 7$ $c = 8$	M8
	$a = 5$ $b = 3$ $c = 7$	M9
	$a = 5$ $b = 7$ $c = 3$	M11
	$a = 5$ $b = 5$ $c = 5$	M10
	$a = 3$ $b = 3$ $c = 3$	
	$a = 7$ $b = 7$ $c = 7$	
	$a = 0$ $b = 5$ $c = 7$	$(M1+S2)$
	$a = 5$ $b = 0$ $c = 3$	
	$a = 7$ $b = 3$ $c = 0$	
	$a = 5$ $b = 3$ $c = 3$	$(M2+S2)$
	$a = 7$ $b = 3$ $c = 7$	
	$a = 5$ $b = 5$ $c = 7$	
	$a = 5$ $b = 7$ $c = 0$	$(M3+S2)$
	$a = 0$ $b = 3$ $c = 5$	
$a = 3$ $b = 0$ $c = 7$		
$a = 5$ $b = 7$ $c = 7$	$(M4+S2)$	
$a = 5$ $b = 3$ $c = 5$		
$a = 3$ $b = 3$ $c = 7$		
$a = 5$ $b = 3$ $c = 10$	$(M5+S2)$	
$a = 12$ $b = 3$ $c = 7$		
$a = 5$ $b = 8$ $c = 7$		
$a = 5$ $b = 0$ $c = 10$	$(M6+S2)$	
$a = 12$ $b = 3$ $c = 0$		
$a = 0$ $b = 8$ $c = 7$		
$a = 5$ $b = 10$ $c = 7$	$(M7+S2)$	
$a = 5$ $b = 3$ $c = 12$		
$a = 8$ $b = 3$ $c = 7$		
$a = 5$ $b = 10$ $c = 0$	$(M8+S2)$	
$a = 0$ $b = 3$ $c = 12$		
$a = 8$ $b = 0$ $c = 7$		
$a = 5$ $b = 7$ $c = 3$	$(M11+S2)$	
$a = 7$ $b = 3$ $c = 5$		
$a = 3$ $b = 5$ $c = 7$		

Question	Answers/s	Model/s
11. int $a = 5$; int $b = 3$; int $c = 7$; $b = a$; $a = c$; $c = b$;	$a = 7$ $b = 0$ $c = 5$	M1
	$a = 7$ $b = 5$ $c = 3$	(M1+S3)/(M2+S3)/(M11+S3)
	$a = 7$ $b = 5$ $c = 5$	M2
	$a = 0$ $b = 3$ $c = 0$	M3
	$a = 3$ $b = 3$ $c = 3$	M4
	$a = 3$ $b = 7$ $c = 5$	(M3+S3)/(M4+S3)
	$a = 12$ $b = 8$ $c = 15$	M5
	$a = 12$ $b = 8$ $c = 10$	(M5+S3)/(M6+S3)
	$a = 7$ $b = 0$ $c = 8$	M6
	$a = 8$ $b = 18$ $c = 15$	M7
	$a = 8$ $b = 10$ $c = 12$	(M7+S3)/(M8+S3)
	$a = 0$ $b = 15$ $c = 0$	M8
	$a = 5$ $b = 3$ $c = 7$	M9
	$a = 7$ $b = 3$ $c = 5$	M11
	$a = 5$ $b = 5$ $c = 5$	M10
	$a = 3$ $b = 3$ $c = 3$	
	$a = 7$ $b = 7$ $c = 7$	
	$a = 0$ $b = 5$ $c = 7$	(M1+S2)
	$a = 5$ $b = 0$ $c = 3$	
	$a = 7$ $b = 3$ $c = 0$	
	$a = 5$ $b = 3$ $c = 3$	(M2+S2)
	$a = 7$ $b = 3$ $c = 7$	
	$a = 5$ $b = 5$ $c = 7$	
	$a = 5$ $b = 7$ $c = 0$	(M3+S2)
	$a = 0$ $b = 3$ $c = 5$	
	$a = 3$ $b = 0$ $c = 7$	
	$a = 5$ $b = 7$ $c = 7$	(M4+S2)
	$a = 5$ $b = 3$ $c = 5$	
	$a = 3$ $b = 3$ $c = 7$	
	$a = 5$ $b = 3$ $c = 10$	(M5+S2)
$a = 12$ $b = 3$ $c = 7$		
$a = 5$ $b = 8$ $c = 7$		
$a = 5$ $b = 0$ $c = 10$	(M6+S2)	
$a = 12$ $b = 3$ $c = 0$		
$a = 0$ $b = 8$ $c = 7$		
$a = 5$ $b = 10$ $c = 7$	(M7+S2)	
$a = 5$ $b = 3$ $c = 12$		
$a = 8$ $b = 3$ $c = 7$		
$a = 5$ $b = 10$ $c = 0$	(M8+S2)	
$a = 0$ $b = 3$ $c = 12$		
$a = 8$ $b = 0$ $c = 7$		
$a = 5$ $b = 7$ $c = 3$	(M11+S2)	
$a = 7$ $b = 3$ $c = 5$		
$a = 3$ $b = 5$ $c = 7$		

Question	Answers/s	Model/s
12. int $a = 5$; int $b = 3$; int $c = 7$; $a = c$; $c = b$; $b = a$;	$a = 0$ $b = 7$ $c = 3$	M1
	$a = 7$ $b = 5$ $c = 3$	(M1+S3)/(M2+S3)/(M11+S3)
	$a = 7$ $b = 7$ $c = 3$	M2
	$a = 5$ $b = 0$ $c = 0$	M3
	$a = 5$ $b = 5$ $c = 5$	M4
	$a = 3$ $b = 7$ $c = 5$	(M3+S3)/(M4+S3)
	$a = 12$ $b = 15$ $c = 10$	M5
	$a = 12$ $b = 8$ $c = 10$	(M5+S3)/(M6+S3)
	$a = 0$ $b = 12$ $c = 3$	M6
	$a = 20$ $b = 15$ $c = 12$	M7
	$a = 8$ $b = 10$ $c = 12$	(M7+S3)/(M8+S3)
	$a = 15$ $b = 0$ $c = 0$	M8
	$a = 5$ $b = 3$ $c = 7$	M9
	$a = 5$ $b = 7$ $c = 3$	M11
	$a = 5$ $b = 5$ $c = 5$	M10
	$a = 3$ $b = 3$ $c = 3$	
	$a = 7$ $b = 7$ $c = 7$	
	$a = 0$ $b = 5$ $c = 7$	(M1+S2)
	$a = 5$ $b = 0$ $c = 3$	
	$a = 7$ $b = 3$ $c = 0$	
	$a = 5$ $b = 3$ $c = 3$	(M2+S2)
	$a = 7$ $b = 3$ $c = 7$	
	$a = 5$ $b = 5$ $c = 7$	
$a = 5$ $b = 7$ $c = 0$	(M3+S2)	
$a = 0$ $b = 3$ $c = 5$		
$a = 3$ $b = 0$ $c = 7$		
$a = 5$ $b = 7$ $c = 7$	(M4+S2)	
$a = 5$ $b = 3$ $c = 5$		
$a = 3$ $b = 3$ $c = 7$		
$a = 5$ $b = 3$ $c = 10$	(M5+S2)	
$a = 12$ $b = 3$ $c = 7$		
$a = 5$ $b = 8$ $c = 7$		
$a = 5$ $b = 0$ $c = 10$	(M6+S2)	
$a = 12$ $b = 3$ $c = 0$		
$a = 0$ $b = 8$ $c = 7$		
$a = 5$ $b = 10$ $c = 7$	(M7+S2)	
$a = 5$ $b = 3$ $c = 12$		
$a = 8$ $b = 3$ $c = 7$		
$a = 5$ $b = 10$ $c = 0$	(M8+S2)	
$a = 0$ $b = 3$ $c = 12$		
$a = 8$ $b = 0$ $c = 7$		
$a = 5$ $b = 7$ $c = 3$	(M11+S2)	
$a = 7$ $b = 3$ $c = 5$		
$a = 3$ $b = 5$ $c = 7$		