**Given $a$ and $b$ are both integers, find the max and min positive integer value of $a$**

$a^2 - b^2 = 56$

$(a+b)(a-b) = 4 \times 2 \times 7$

$28 \times 2$

$14 \times 4$

$\max : \frac{28+2}{2} = 15$

$\min : \frac{14+4}{2} = 9$

$a^2 - b^2 = 57$

$\max = \frac{57+1}{2} = 29$

$\min = \frac{19+3}{2} = 11$

$a^2 - b^2 = 65$

$\max : 33$

$\min : 9$

$a^2 - b^2 = 35$

$18, 6$

$a^2 - b^2 = 21$

$11, 5$

$a^2 - b^2 = 20$

$6, 6$

$a^2 - b^2 = 98$

DNE : Do Not Exist

$a^2 - b^2 = 64$

17, 8

$a^2 - b^2 = 80$

21, 9

$a^2 - b^2 = 34$

DNE

$a^2 - b^2 = 83$

42, 42

$a^2 - b^2 = 5$

3, 3

$a^2 - b^2 = 31$

16, 16

$a^2 - b^2 = 51$

26, 10

$a^2 - b^2 = 45$

23, 7

$a^2 - b^2 = 28$

8, 8

$a^2 - b^2 = 1$

1, 1

$a^2 - b^2 = 90$

DNE

$a^2 - b^2 = 44$

12, 12

$a^2 - b^2 = 99$

50, 10

$a^2 - b^2 = 14$

DNE

$a^2 - b^2 = 50$

DNE

$a^2 - b^2 = 3$

2, 2

$a^2 - b^2 = 46$

DNE

$a^2 - b^2 = 2$

DNE

$a^2 - b^2 = 7$

4, 4

$a^2 - b^2 = 47$

24, 24

$a^2 - b^2 = 10$

DNE

$a^2 - b^2 = 32$

9, 6

$a^2 - b^2 = 81$

41, 9

$a^2 - b^2 = 33$

17, 7

$a^2 - b^2 = 49$

25, 7

$a^2 - b^2 = 30$

DNE

$a^2 - b^2 = 85$

43, 11

$a^2 - b^2 = 41$

21, 21

$a^2 - b^2 = 12$

4, 4

$a^2 - b^2 = 87$

44 , 16

$a^2 - b^2 = 92$

24 , 24

$a^2 - b^2 = 58$

DNE

$a^2 - b^2 = 22$

DNE

$a^2 - b^2 = 18$

DNE

$a^2 - b^2 = 26$

DNE

$a^2 - b^2 = 77$

39, 9

$a^2 - b^2 = 29$

15, 15

$a^2 - b^2 = 76$

20, 20

$a^2 - b^2 = 94$

DNE

$a^2 - b^2 = 100$

26, 10

$a^2 - b^2 = 54$

DNE

$a^2 - b^2 = 55$

28, 8

$a^2 - b^2 = 91$

46, 10

$a^2 - b^2 = 43$

22, 22

$a^2 - b^2 = 63$

32, 8

$a^2 - b^2 = 38$

DNE

$a^2 - b^2 = 60$

16, 16

$a^2 - b^2 = 24$

7, 5

$a^2 - b^2 = 13$

7, 7

$a^2 - b^2 = 27$

14, 6

$a^2 - b^2 = 86$

DNE

$a^2 - b^2 = 37$

19, 19

$a^2 - b^2 = 75$

38, 10

$a^2 - b^2 = 67$

34, 34

$a^2 - b^2 = 79$

40, 40

$a^2 - b^2 = 42$

DNE

$a^2 - b^2 = 84$

22, 10

$a^2 - b^2 = 71$

36, 36

$a^2 - b^2 = 89$

45, 45

$a^2 - b^2 = 72$

19, 9

$a^2 - b^2 = 39$

20, 8

$a^2 - b^2 = 93$

47, 17

$a^2 - b^2 = 88$

23, 13

$a^2 - b^2 = 66$

DNE

$a^2 - b^2 = 78$

DNE

$a^2 - b^2 = 11$

6, 6

$a^2 - b^2 = 8$

3, 3

$a^2 - b^2 = 23$

12, 12

$a^2 - b^2 = 19$

10, 10

$a^2 - b^2 = 25$

13, 5

$a^2 - b^2 = 68$

18, 18

$a^2 - b^2 = 74$

DNE

$a^2 - b^2 = 70$

DNE

$a^2 - b^2 = 40$

11, 7

$a^2 - b^2 = 73$

37, 37

$a^2 - b^2 = 53$

27, 27

$a^2 - b^2 = 36$

10, 6

$a^2 - b^2 = 69$

35, 13

$a^2 - b^2 = 4$

2, 2

$a^2 - b^2 = 61$

31, 31

$a^2 - b^2 = 6$

DNE

$a^2 - b^2 = 82$

DNE

$a^2 - b^2 = 62$

DNE

$a^2 - b^2 = 9$

5, 3

$a^2 - b^2 = 17$

9, 9

$a^2 - b^2 = 97$

49, 49

$a^2 - b^2 = 96$

25, 10

$a^2 - b^2 = 48$

13, 7

$a^2 - b^2 = 16$

5, 4

$a^2 - b^2 = 95$

48, 12

$a^2 - b^2 = 15$

8, 4

$a^2 - b^2 = 59$

30, 30

$a^2 - b^2 = 52$

14, 14