X: {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20}

Y: {3,5,15}

For all n in X, there is some m in Y where n * m >= 15

X: n is 1

  Y: m is 3 and is invalid.

  Y: m is 5 and is invalid.

  Y: m is 15 and is valid.

X: n is 2

  Y: m is 3 and is invalid.

  Y: m is 5 and is invalid.

  Y: m is 15 and is valid.

X: n is 3

  Y: m is 3 and is invalid.

  Y: m is 5 and is valid.

X: n is 4

  Y: m is 3 and is invalid.

  Y: m is 5 and is valid.

X: n is 5

  Y: m is 3 and is valid.

X: n is 6

  Y: m is 3 and is valid.

X: n is 7

  Y: m is 3 and is valid.

X: n is 8

  Y: m is 3 and is valid.

X: n is 9

  Y: m is 3 and is valid.

X: n is 10

Y: m is 3 and is valid.

X: n is 11

Y: m is 3 and is valid.

X: n is 12

Y: m is 3 and is valid.

X: n is 13

Y: m is 3 and is valid.

X: n is 14

Y: m is 3 and is valid.

X: n is 15

Y: m is 3 and is valid.

X: n is 16

Y: m is 3 and is valid.

X: n is 17

Y: m is 3 and is valid.

X: n is 18

Y: m is 3 and is valid.

X: n is 19

Y: m is 3 and is valid.

X: n is 20

Y: m is 3 and is valid.

This statement is VALID.

X: {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20}

Y: {3,5,15}

For some n in X, there is all m in Y where n/m is an integer

X: n is 1

  Y: m is 3 and is invalid.

X: n is 2

  Y: m is 3 and is invalid.

X: n is 3

  Y: m is 3 and is valid.

  Y: m is 5 and is invalid.

X: n is 4

  Y: m is 3 and is invalid.

X: n is 5

  Y: m is 3 and is invalid.

X: n is 6

  Y: m is 3 and is valid.

  Y: m is 5 and is invalid.

X: n is 7

  Y: m is 3 and is invalid.

X: n is 8

  Y: m is 3 and is invalid.

X: n is 9

  Y: m is 3 and is valid.

  Y: m is 5 and is invalid.

X: n is 10

  Y: m is 3 and is invalid.

X: n is 11

  Y: m is 3 and is invalid.

X: n is 12

  Y: m is 3 and is valid.

  Y: m is 5 and is invalid.

X: n is 13

  Y: m is 3 and is invalid.

X: n is 14

  Y: m is 3 and is invalid.

X: n is 15

  Y: m is 3 and is valid.

  Y: m is 5 and is valid.

  Y: m is 15 and is valid.

This statement is VALID.

X: {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20}

Y: {3,5,15}

For all n in X, there is all m in Y where m*n >= 2

X: n is 1

  Y: m is 3 and is valid.

  Y: m is 5 and is valid.

  Y: m is 15 and is valid.

X: n is 2

  Y: m is 3 and is valid.

  Y: m is 5 and is valid.

  Y: m is 15 and is valid.

X: n is 3

  Y: m is 3 and is valid.

  Y: m is 5 and is valid.

  Y: m is 15 and is valid.

X: n is 4

  Y: m is 3 and is valid.

  Y: m is 5 and is valid.

  Y: m is 15 and is valid.

X: n is 5

  Y: m is 3 and is valid.

  Y: m is 5 and is valid.

  Y: m is 15 and is valid.

X: n is 6

  Y: m is 3 and is valid.

  Y: m is 5 and is valid.

  Y: m is 15 and is valid.

X: n is 7

  Y: m is 3 and is valid.

  Y: m is 5 and is valid.

  Y: m is 15 and is valid.

X: n is 8

  Y: m is 3 and is valid.

  Y: m is 5 and is valid.

  Y: m is 15 and is valid.

X: n is 9

  Y: m is 3 and is valid.

  Y: m is 5 and is valid.

  Y: m is 15 and is valid.

X: n is 10

Y: m is 3 and is valid.

Y: m is 5 and is valid.

Y: m is 15 and is valid.

X: n is 11

Y: m is 3 and is valid.

Y: m is 5 and is valid.

Y: m is 15 and is valid.

X: n is 12

Y: m is 3 and is valid.

Y: m is 5 and is valid.

Y: m is 15 and is valid.

X: n is 13

Y: m is 3 and is valid.

Y: m is 5 and is valid.

Y: m is 15 and is valid.

X: n is 14

Y: m is 3 and is valid.

Y: m is 5 and is valid.

Y: m is 15 and is valid.

X: n is 15

Y: m is 3 and is valid.

Y: m is 5 and is valid.

Y: m is 15 and is valid.

X: n is 16

Y: m is 3 and is valid.

Y: m is 5 and is valid.

Y: m is 15 and is valid.

X: n is 17

Y: m is 3 and is valid.

Y: m is 5 and is valid.

Y: m is 15 and is valid.

X: n is 18

Y: m is 3 and is valid.

Y: m is 5 and is valid.

Y: m is 15 and is valid.

X: n is 19

Y: m is 3 and is valid.

Y: m is 5 and is valid.

Y: m is 15 and is valid.

X: n is 20

Y: m is 3 and is valid.

Y: m is 5 and is valid.

Y: m is 15 and is valid.

This statement is VALID.

X: {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20}

Y: {3,5,15}

For some n in X, there is some m in Y where m*n >= 10

X: n is 1

Y: m is 3 and is invalid.

Y: m is 5 and is invalid.

Y: m is 15 and is valid.

This statement is VALID.