

| Kepler Name _{1,2} | Orbital Period (Earth Days) | Orbital Period T (s) | Mass of respective star in terms of Sun | Mass M of respective star (kg) | $\sqrt[3]{\left(\frac{T}{2\pi}\right)^2 * G * M} = r$ (m) ₃ | a.u. according to exoplanet.eu | Final accepted value (m) ₄ | Value for 1 : 1 * 10^{10} model (m) | Type of star ₅ | Type of planet |
|----------------------------|-----------------------------|------------------------|---|----------------------------------|--|--------------------------------|---------------------------------------|---------------------------------------|---------------------------|----------------|
| 560b | 18.4776 | 1 596 464.6 | 0.34 | $6.7626 * 10^{29}$ | $1.4280 * 10^{10}$ | not available | $1.4280 * 10^{10}$ | 1.428 0 | K | Hot Jupiter |
| 705b | 56.0560 | 4 843 238.4 | .53 | $1.0540 * 10^{30}$ | $3.4699 * 10^{10}$ | not available | $3.4699 * 10^{10}$ | 3.469 9 | K | Hot Jupiter |
| 1229b | 86.8289 | 7 502 017.0 | .54 | $1.0740 * 10^{30}$ | $4.6743 * 10^{10}$ | not available | $4.6743 * 10^{10}$ | 4.674 3 | K | Super Earth |
| 1410b | 60.8661 | 5 258 831.0 | .63 | $1.2531 * 10^{30}$ | $3.8830 * 10^{10}$ | not available | $3.8830 * 10^{10}$ | 3.883 0 | K | Hot Jupiter |
| 1455b | 49.2767 | 4 257 506.9 | .62 | $1.2332 * 10^{30}$ | $3.5506 * 10^{10}$ | not available | $3.5506 * 10^{10}$ | 3.550 6 | K | Hot Jupiter |
| 1544b | 168.8117 | 14 671 730.9 | .81 | $1.6111 * 10^{30}$ | $8.3678 * 10^{10}$ | not available | $8.3678 * 10^{10}$ | 8.367 8 | K | Gas Giant |
| 1606b | 196.4352 | 16 972 001.3 | .90 | $1.7901 * 10^{30}$ | $9.5507 * 10^{10}$ | not available | $9.5507 * 10^{10}$ | 9.550 7 | G | Gas Giant |
| 1638b | 259.3368 | 22 406 702.0 | .97 | $1.9293 * 10^{30}$ | $1.1784 * 10^{10}$ | not available | $1.1784 * 10^{10}$ | 1.178 4 | G | Gas Giant |
| 1593b | 174.5098 | 15 077 647.7 | .81 | $1.6111 * 10^{30}$ | $1.4386 * 10^{11}$ | not available | $1.4386 * 10^{11}$ | 14.386 | K | Gas Giant |
| 452b | 384.8430 | 33 250 435.2 | 1.04 | $2.0625 * 10^{30}$ | $1.5676 * 10^{11}$ | $1.064 = 1.5648 * 10^{11}$ m | $1.5662 * 10^{11}$ | 15.662 | G | Gas Giant |
| 62e | 122.3874 | 10 576 271.4 | .69 | $1.3724 * 10^{30}$ | $6.3765 * 10^{10}$ | $.427 = 6.3878 * 10^{10}$ m | $6.3822 * 10^{10}$ | 6.382 2 | K | Hot Jupiter |
| 62f | 267.2910 | 23 871 542.4 | .69 | $1.3724 * 10^{30}$ | $1.0973 * 10^{11}$ | $.718 = 1.0741 * 10^{11}$ m | $1.0857 * 10^{11}$ | 10.857 | K | Gas Giant |
| 155c | 52.6617 | 4 549 970.9 | .58 | $1.1536 * 10^{30}$ | $3.4299 * 10^{10}$ | $.242 = 3.6202 * 10^{10}$ m | $3.5251 * 10^{10}$ | 3.525 1 | K | Hot Jupiter |
| 442b | 112.3053 | 9 703 177.9 | .61 | $1.2113 * 10^{30}$ | $5.7758 * 10^{10}$ | $.409 = 6.1185 * 10^{10}$ m | $5.9472 * 10^{10}$ | 5.947 2 | K | Super Earth |
| 235e | 46.1836 | 3 990 263.0 | .59 | $1.1735 * 10^{30}$ | $3.1604 * 10^{10}$ | $.213 = 3.1864 * 10^{10}$ m | $3.1734 * 10^{10}$ | 3.173 4 | K | Hot Jupiter |
| 440b | 101.1114 | 8 736 025.0 | .58 | $1.1436 * 10^{30}$ | $5.2832 * 10^{10}$ | $.242 = 3.6202 * 10^{10}$ m | $4.4517 * 10^{10}$ | 4.451 7 | K | Hot Jupiter |
| 283c | 92.7437 | 8 013 055.7 | not available | - | - | $.341 = 5.1013 * 10^{10}$ m | $5.1013 * 10^{10}$ | 5.101 3 | K | Hot Jupiter |
| 296e | 34.1423 | 2 949 894.72 | not available | - | - | $.174 = 2.6030 * 10^{10}$ m | $2.6030 * 10^{10}$ | 2.603 0 | K | Hot Jupiter |
| 438b | 35.2332 | 3 044 147.6 | .54 | $1.0820 * 10^{30}$ | $2.5682 * 10^{10}$ | $.166 = 2.4833 * 10^{10}$ m | $2.5258 * 10^{10}$ | 2.525 8 | K | Terrestrial |
| 296f | 63.3358 | 5 472 213.1 | not available | - | - | $.263 = 3.9344 * 10^{10}$ m | $3.9344 * 10^{10}$ | 3.934 4 | K | Hot Jupiter |
| 186f | 129.9459 | 11 227 325.8 | .478 | $9.5074 * 10^{29}$ | $5.8721 * 10^{10}$ | $.356 = 5.3256 * 10^{10}$ m | $5.5989 * 10^{10}$ | 5.598 9 | K | Super Earth |

Notes:

1. The Kepler names, orbital periods in Earth days, and masses of respective stars in terms of the Sun were found on <http://exoplanet.eu/catalog/>
2. Planets 560b, 705b, 1229b, 1410b, 1455b, 1544b, 1606b, 1638b, 1593b were recently discovered.
3. $\sqrt[3]{((\frac{T}{2\pi})^2 * G * M) = r}$ was derived to find the radius r from the respective star as shown below:

It is known that the escape velocity of an object $v = \sqrt{GM/r}$ where M is the mass of the body being orbited.

It is also known that for fairly circular orbits, $v = 2\pi r/T$ where T is the period of the planet and r is its distance from its sun.*

By the transitive property,

$$v = \sqrt{GM/r} = 2\pi r/T$$

Dividing,

$$\frac{T}{2\pi r} = \sqrt{\frac{r}{GM}}$$

Multiplying by r ,

$$\frac{T}{2\pi} = r \sqrt{\frac{r}{GM}}$$

Moving r under the radical,

$$\frac{T}{2\pi} = \sqrt{\frac{r^3}{GM}}$$

Squaring both sides,

$$\left(\frac{T}{2\pi}\right)^2 = \frac{r^3}{GM}$$

Multiplying by GM ,

$$\left(\frac{T}{2\pi}\right)^2 * GM = r^3$$

Taking the cube root,

$$\sqrt[3]{\left(\frac{T}{2\pi}\right)^2 * G * M} = r$$

*Because $v = \sqrt{GM/r}$ applies to fairly circular orbits, it should be noted that inaccuracies in the data above may stem from the relatively large orbital eccentricities of the planets. For example, 440b's significant error between the calculated and given orbital radii can be justified considering its eccentricity of .34.

4. For 452b, 62e, 62f, 155c, 442b, 235e, 440b, 438b, 186f, planets for which the orbital radius was found according to both the equation above and the a.u. listed on exoplanet.eu, the average of these two sets of values was taken and is listed in the "final accepted value" column.
5. Type of star and planet is according to <https://exoplanets.nasa.gov/newworldsatlas/>