

ASTRONOMY 111/112 SKILLS CHECK

NAME _____
ID# _____

1. $1425 + 382 =$
a) 1707 b) 1717 c) 1807 d) 1907 e) none of the above
2. IF $\frac{5}{8} * X = \frac{3}{16}$, THEN $X =$ [* = times]
a) $\frac{8}{5}$ b) $\frac{1}{2}$ c) $\frac{3}{10}$ d) $\frac{10}{3}$ e) none of the above
3. $\frac{3}{8} + \frac{1}{6} =$
a) $\frac{4}{14}$ b) $\frac{1}{2}$ c) $\frac{5}{24}$ d) $\frac{13}{24}$ e) none of the above
4. $0.012 * 2.5 =$ [* = times]
a) 3.0 b) 0.3 c) 0.03 d) 0.003 e) none of the above
5. IF $\frac{1.2}{X} = \frac{0.4}{1.5}$; THEN $X =$
a) 4.50 b) 3.20 c) 0.32 d) 0.45 e) none of the above
6. The area of a rectangle with sides of 10 meters and 50 meters is:
a) 120 square-meters b) 100 square-meters c) 500 square-meters d) 70 square-meters e) none of the above
7. If the length of the side of a square is a, then the area of the square would be:
a) a b) a^2 c) a^3 d) a^4 e) none of the above
8. $10^2 * 10^8 =$ [* = times]
a) 10^6 b) 10^9 c) 10^8 d) 10^{10} e) none of the above
9. $\frac{10^{10}}{10^5} =$
a) 10^9 b) 10^7 c) 10^6 d) 10^3 e) none of the above
10. If Flagstaff is 162.5 miles from Tempe and you drive at a steady speed of 65 miles per hour (just to annoy the truckers), how long will it take you to get to Flagstaff?
a) 2.5 hours b) 2.0 hours c) 3.0 hours d) 4.0 hours e) none of the above
11. How many grams in a kilogram?
a) 10 b) 100 c) 1000 d) 10000 e) none of the above
12. Write $\frac{3}{8}$ in decimal notation.
a) 0.625 b) 0.5 c) 0.1 d) 0.375 e) none of the above
13. A car traveled 296 miles on 16 gallons of gasoline. What was the average number of miles per gallon?
a) 16.2 b) 18.5 c) 20.1 d) 15.3 e) none of the above
14. $4^3 =$
a) 16 b) 24 c) 36 d) 64 e) none of the above
15. $8^2 =$
a) 16 b) 24 c) 36 d) 64 e) none of the above
16. $(\frac{1}{4})^3 =$
a) $\frac{1}{16}$ b) $\frac{1}{24}$ c) $\frac{1}{48}$ d) $\frac{1}{64}$ e) none of the above
17. $\frac{4}{5} * (\frac{25}{36}) =$ [* = times]
a) $\frac{5}{9}$ b) $\frac{9}{5}$ c) $\frac{100}{190}$ d) $\frac{25}{36}$ e) none of the above
18. $\frac{1}{(1/3)} =$

- a) 1/3 b) 3 c) 1 d) 9 e) none of the above

19. If A is inversely proportional to B, then as B decreases A must increase.
a) True b) False
20. If A is inversely proportional to B^2 and we double B, A will be _____?
a) 2 times larger b) 2 times smaller c) 4 times smaller d) 4 times larger e) none of the above
21. If the earth is about 5 billion years old and the universe is about 15 billion years old, then the earth is one-third the age of the universe.
a) True b) False
22. One day is 24 hours.
a) True b) False
23. One year is about 365 days.
a) True b) False
24. The sun is a star.
a) True b) False
25. The earth is round.
a) True b) False
26. The moon revolves around the earth.
a) True b) False
27. All elements are made out of atoms which consist of a nucleus and electrons orbiting the nucleus.
a) True b) False
28. All the planets in our solar system orbit the sun.
a) True b) False
29. There is no evidence for planets orbiting other stars in our galaxy.
a) True b) False
30. There is evidence that at one time Mars had running water on its surface.
a) True b) False
31. The atmosphere of the earth is transparent to ultra-violet radiation.
a) True b) False
32. The largest operating telescope in the world has its controls marked in
a) English b) French c) German d) Russian e) Chinese
33. The velocity of light in a vacuum is about
a) 300,000 km/sec b) 186,000 mi/hour c) 93,000,000 miles d) 230,000 km/sec
e) 120 Furlongs/Fortnight
34. The largest operating optical telescope in the world is located in
a) Arizona b) California c) Russia d) Puerto Rico e) Hawaii
35. The human eye responds most strongly to electromagnetic radiation with a wavelength of about:
a) 1 Angstrom b) 2500 Angstroms c) 5000 Angstroms d) 30,000 Angstroms e) 10 Angstroms
36. A hotter thermal emitter emits more total energy than a cooler thermal emitter
a) True b) False
37. The MMT has how many mirrors?
a) 1 b) 2 c) 4 d) 6 e) none-they are all lenses
38. X-ray telescopes are located on satellites in earth orbit because
a) The earth's atmosphere is transparent to x-ray radiation b) X-ray light is not resolved by ground based telescopes
c) X-rays from stars pass through ground based telescopes d) The Earth's atmosphere is opaque to x-ray's

e) all of the above

39. Radio telescopes are used primarily at which kind of focus:

a) Prime Focus b) Newtonian Focus c) Schmidt Focus d) Hocus Focus e) all of the above

40. Each element in the periodic table produces a unique pattern of absorption line in its spectrum.

a) True b) False