|  |  |
| --- | --- |
| Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Mirrors and Lenses

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  | 1  F |  |  |  |  |  |  |  |  |  | 2  P |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 3  F |  | 4  P | L | A | N | O | C | O | N | V | E | X |  |  |  | L |  |  |  |  |  |  |  |  |
|  |  |  |  |  | O |  |  |  |  |  | C |  |  |  |  |  |  |  |  |  | A |  |  |  |  |  |  |  | 5  C |
|  | 6  O | B | J | E | C | T | D | I | S | T | A | N | C | E |  |  |  |  |  |  | N |  |  |  |  |  |  |  | O |
|  |  |  |  |  | A |  |  |  |  |  | L |  |  |  |  |  |  |  | 7  P |  | O |  |  |  |  |  |  |  | N |
|  |  |  |  |  | L |  |  |  |  |  | P |  |  |  | 8  D |  |  | 9  C | O | N | C | A | V | E |  |  |  |  | V |
|  |  |  |  |  | L |  |  |  |  |  | O |  |  |  | I |  |  |  | S |  | O |  |  |  |  |  |  |  | E |
|  |  |  |  |  | E |  |  |  |  | 10  B | I | C | O | N | V | E | X |  | I |  | N |  |  |  |  |  |  |  | R |
|  |  |  |  |  | N |  |  |  |  |  | N |  |  |  | E |  |  |  | H |  | C |  | 11  M |  |  |  |  |  | G |
|  |  |  | 12  C | O | N | V | E | X |  |  | T |  | 13  P |  | 14  R | E | A | L | I | M | A | G | E |  |  |  |  |  | I |
|  |  |  |  |  | G |  |  |  |  |  |  |  | E |  | G |  |  |  | V |  | V |  | N |  |  |  |  |  | N |
|  |  |  |  |  | H |  |  | 15  V | I | R | T | U | A | L | I | M | A | G | E |  | E |  | I |  |  |  |  |  | G |
|  |  |  |  |  |  |  |  |  |  |  |  |  | N |  | N |  |  |  | M |  |  |  | T |  |  |  |  |  | L |
|  |  |  |  |  |  |  |  |  |  |  |  |  | O |  | G |  |  |  | E |  | 16  B | I | C | O | N | C | A | V | E |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | L |  |  |  | N |  |  |  | U |  |  |  |  |  | N |
|  |  |  |  |  |  |  |  | 17  N | E | G | A | T | I | V | E | M | E | N | I | S | C | U | S |  |  |  |  |  | S |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | N |  |  |  | S |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 18  I | M | A | G | E | D | I | S | T | A | N | C | E |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | U |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | 19  C | O | N | T | A | C | T | L | E | N | S |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 20  M | A | G | N | I | F | Y | I | N | G | L | E | N | S |  |  |  |  |  |  |  |  |

|  |  |
| --- | --- |
| **Across**  **4.**  lenses are used in imaging, lasers and fiber optics; being flat on one side, and convex on the other  **6.** the distance from the actual object being reflected to the point of incidence on the mirror where it's reflected as an image.  **9.** including in eyeglasses; curving inward.  **10.** Lenses can be used to focus light; convex on both sides  **12.** refracting telescope uses two (of these lenses) to magnify images in the sky; surface curved like the exterior of a circle or sphere.  **14.** movies presented are an example; light actually converges  **15.** formed by diverging lenses or by placing an object inside the focal length of a converging lens  **16.** concave on both sides  **17.** common element in beam expanding applications; consist of a convex surface and a concave surface where the concave surface.  **18.** the distance from the point of incidence on the mirror, the where the image is reflected to  **19.** a thin plastic lens placed image directly on the surfaceof the eye to correct visual defect  **20.**  microscopes are an example of this; convex lens that is used to produce a magnified image of an object | **Down**  **1.** A "perfect" lens or mirror would send all light rays through one which would result in the clearest image; the center of interest or activity.  **2.** pertaining to or nothing a lens that is plane on one side and concave on the other.  **3.**  The light enters the lens and it bends as it goes through the lens to cross at a point in front of the lens.  **5.** used in a refracting telescope to focus the image  **7.** Fisheye” used in photography for a curve look; is thicker at the center than at the edges.  **8.**  a lens that causes a beam of parallel rays to diverge after refraction, as from a virtual image  **11.** A lens with one convex and one concave side is convex-concave.  **13.** pertaining to eyeglasses that do not contain a curvature for correcting vision, such as sunglasses. |