|  |  |  |  |
| --- | --- | --- | --- |
| **For questions 1 and 2, find the slope of the line passing through each pair of points. If the slope is undefined, write “undefined”.** | | | |
| 1. (-8, 7) and (5, -2) | 1. (5, 9) and (5, -3) | | |
| 1. Find the value of r so that the line through (-4, 3) and (4, -3) has a slope of | 1. Find the value of *r* so that the line through (4, 5) and (6, r) has a slope of | | |
| 1. In 1990, there were approximately 35,000 people in Lancaster. Five years later, the population was 38,452. Find the rate of change in the population. | 1. Write in standard form. | | |
| 1. If an ostrich can run 15 kilometers in 15 minutes, how many kilometers can it run in an hour? | 1. Write the point-slope form of an equation of the line that has slope and passes through (2, 1) | | |
| 1. Graph | 1. Graph a line whose x-intercept is 5 and whose slope is | | |
| 1. Write an equation in standard form of the line that passes through (2, -3) and (-3, 7). | 1. Write the point-slope form of the equation for the line that has x-intercept -3 and y-intercept -2. | | |
| **For questions 13 – 20, write an equation in slope-intercept form of the line satisfying the given conditions.** | | | |
| 1. Has y-intercept -8 and slope 3 | | 1. Has slope and passes through (4, -1) | |
| 1. Passes through (-3, 7) and (2, 4) | | 1. Is horizontal and passes through (-4, 6) | |
| 1. Is parallel to the y-axis and has an x-intercept of 3 | | 1. Is perpendicular to 4y = 3x – 8 and passes through (-12, 7) | |
| 1. Is parallel to 3x – 5y = 7 and passes through (0, -6) | | 1. Is perpendicular to the y-axis and passes through (-2, 5) | |
| 1. A rental Company charges $52.99 per day, including 200 free kilometers. There is a charge of $0.12/km for additional kilometers. Write a linear equation that models this situation. | | 1. Write the slope intercept form of y + 3 = -0.5(x – 10) | |
| **For questions 23 - 27, use the data in the table.** | | | |
| 1. Make a scatter plot relating the verbal scores and the math scores.  |  |  |  | | --- | --- | --- | | State Graduation Scores | | | | **Year** | **Verbal Score** | **Math Score** | | 1970 | 460 | 488 | | 1980 | 424 | 466 | | 1990 | 410 | 463 | | 2000 | 420 | 460 | | | | 1. Does the scatter plot in question 21 show a *positive,* a *negative,* or *no correlation?* What does that relationship represent? |
| 1. Write the equation for a line of best fit. | 1. Use the equation in #23 to predict the corresponding math score for a verbal score of 445. | | |