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| **On-level Geometry Final Exam Study Guide** | | **Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ S \_\_\_\_\_** |
| **Graph the following circles. State the center and radius.** | | |
| 1) x+ y= 20 | | 2) (x – 5)+ (y + 2)= 16 |
| Center: \_\_\_\_\_\_\_\_\_\_\_ & Radius: \_\_\_\_\_\_\_\_\_\_\_ | | Center: \_\_\_\_\_\_\_\_\_\_\_ & Radius: \_\_\_\_\_\_\_\_\_\_\_ |
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| **Write the standard equation for the circle. State the center and radius.** | | |
| 3) x+ y– 14x + 4y – 11 = 0 | | 4) x+ y– 8x + 4y – 6 = 0 |
| 5) A circular disk drive has a diameter with endpoints at (−9, 2) and (15, 12). Find the center and radius of the disk drive. Write the equation of the circle in standard form, then convert it to general form. |  | |
| 6) Find the point that partitions the line segment in a 1:1 ratio with endpoints (8, 4) and (–5, –7). | | 7) Find the perimeter of the triangle with the vertices (–3, 2), (1, –5), and (5,4). |

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| **Change the following equations to general form of a circle, making sure it’s in the correct order.** | | | | |
| 8) (x – 4)2 + (y – 1)2 = 9 | | 9) (x – 3)2 + (y + 8)2 = 25 | | |
| 10) Find the equation of a line that is parallel to and passes through . | | | | |
| 11) Find the equation of a line that is perpendicular to and passes through . | | | | |
| 12) Circle C has a center of (3, 4) and a radius of 5. Does the point (0, 10) lie on circle C? Show your evidence (work). | | | | |
| **Probability Review: Venn Diagrams, Tables, & Words** | | | | |
| * ***Event A****: Gale, Allen, & Dante like scary movies* * ***Event B****: Allen, Tim & Laura like comedy movies* * *Gina & Kellie don’t prefer either of those 2 types* | | |  | |
| 13) List the **possible** **outcomes,** or *sample space* for A ∪ B. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | |
| 14) List the **outcomes** for A ∩ B. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | |
| 15) List the **outcomes** for A’. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | |
| 16) Find P(B) \_\_\_\_\_\_\_\_\_\_\_\_\_ | 17) Find P() \_\_\_\_\_\_\_\_\_\_\_\_\_ | | | 18) Find P(A ∩ B) \_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **The table below represents a table about upperclassmen’s suggestions for a class activity.** | | | | |
| 19) Find P(11th) \_\_\_\_\_\_\_\_\_\_\_  20) Find P(Dance) \_\_\_\_\_\_\_\_\_\_\_  21) Find P(10th ∪ Dance) \_\_\_\_\_\_\_\_\_\_\_  22) Find P(Field Trip ∩ 11th) \_\_\_\_\_\_\_\_\_\_\_  23) Find  \_\_\_\_\_\_\_\_\_\_\_  24) Find P(10th | Field Trip) \_\_\_\_\_\_\_\_\_\_\_  25) Find P(Talent Show | 10th) \_\_\_\_\_\_\_\_\_\_\_ | |  | | |
| **Mutually Exclusive vs Overlapping**  26) Which of the following are **mutually exclusive**?   1. Choosing a Kin g or a Diamond in a deck of cards 2. Choosing a band student or math student in a classroom 3. Rolling 2 dice and getting an even sum or a sum less than 7 4. Choosing a Jack or a 5 in a deck of cards | | | | |
| **Check for Independent Events** | | | | |
| 27) Which of the following pair of events are **independent**?   1. P(A) = 0.08; P(B) = 0.4; P(A ∩ B) = 0.12 2. P(A) = 0.30; P(B) = 0.15; P(A ∩ B) = 0.045 3. P(A) = 0.16; P(B) = 0.24; P(A ∩ B) = 0.32 | | 28) Use the data in the table to decide if liking PE is independent of your gender. Tip: You can check either male or female | | |
| **The sum of 2 dice** | |  | | |
| 29) P(even sum or a sum > 9) | 30) (sum < 7 or a sum > 10) | | | 31) P(odd sum or a sum < 8) |
| **Calendar – A month is chosen from a year**  32) Find the probability of choosing a month that begins with a vowel. \_\_\_\_\_\_\_\_\_\_\_  33) Find the probability of choosing a month starting with the letter M or J. \_\_\_\_\_\_\_\_\_\_\_  34) Find the probability of selecting a month that begins and ends with a consonant. \_\_\_\_\_\_\_\_\_\_\_  35) Find the probability of selecting a month that begins with a consonant and then selecting another month begins with a consonant (*without replacement*). \_\_\_\_\_\_\_\_\_\_\_  36) Find the probability of choosing a month that starts with a vowel given that it ends in the letter R. \_\_\_\_\_\_\_\_\_\_\_ | | | | |