MATH 7: HANDOUT 27
REVIEW TEST

1. Simplify:

$$(2(x^2)^{-2}y^3)^2$$

2. Simplify:

$$\frac{\sqrt{13}}{\sqrt{56}} \times \frac{\sqrt{7}}{\sqrt{26}}$$

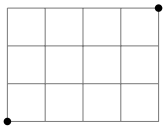
3. Find the sum:

$$5 + 7 + 9 + \cdots + 25$$

4. Find the sum:

$$\frac{1}{3} + \frac{1}{3^2} + \frac{1}{3^3} + \cdots + \frac{1}{3^{10}}$$

5. How many distinct 7-unit paths are there from the lower left to the upper right corner?



6. Solve the following equations and inequalities:

(a) $\dfrac{x+1}{x+2} < 5$ (b) $\sqrt{x+4} = x+2$

7. Solve the equation:

$$|3x - 5| = 10$$

8. Solve the inequality:

$$(x+1)(x-2)^2(x-4)^3 \leq 0$$

9. Sketch the graph:

$$y = x^2 - 2x - 8$$

10. Sketch the graph:

$$y = x - \frac{1}{|x|}$$

11. Find all angles x such that

$$(\cos x)^2 = \frac{3}{4}$$

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12. Solve the equation:

$$4\cos x + \frac{3}{\cos x} = 8$$