MATH 072/137/139 Readiness Check

Work through the questions below to see if you are prepared for taking Math 072,137 or 139. The answer key is at the back of this worksheet.

- If you get at least 24 questions correct, and it takes you less than 2 hours to complete, you are probably ready for Math 072,137 or 139.
- If you get less than 24 questions correct or it takes you more than 2 hours to complete these exercises, then you are not ready for Math 072, 137 or 139 and should do one of the following:
  - Take Math 052 or 053. These are self-paced and continuous entry courses so if there's room you can usually register at any time of the year (you may also be eligible for the Adult Upgrading Grant to cover your tuition); or
  - Write a placement test to determine your best starting point.

No calculators.

1. Subtract: $3\frac{1}{4}-2\frac{5}{12}$

2. Divide: $\frac{7}{15}\div\left(-\frac{2}{5}\right)$

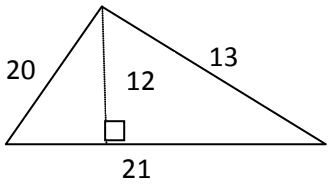
3. Evaluate: $\frac{2}{3}\left(4-\frac{1}{4}\right)$

4. Reduce the fraction $\frac{192}{120}$

5. Evaluate $5.24-3.78$

6. Find the perimeter *P* and area *A* of a 2.80 cm by 1.70 cm rectangle.

7. Find the area of the triangle. All units are in metres.



8. Evaluate: $\frac{-2(8-5\cdot 2^3)}{4^2-5^2}$

9. Evaluate: $3\left|-8+17\right|$

10. Simplify: $2x-[5-4(3x-1)]$

11. Simplify: $\frac{-24x}{-8x}$

12. Simplify: $\frac{x}{0.5}$

13. Simplify: $\frac{1}{3}a-\frac{3}{4}b+\frac{5}{6}a-\frac{1}{5}b$

14. True or false? Justify your answer.

i) $\frac{a+b}{c}=\frac{a}{c}+\frac{b}{c}$

ii) $\frac{a+b}{b}=a$?

15. Solve for *a*: $a-6=15+4a$

16. Solve for *t*: $\frac{t}{3}=\frac{-6}{5}$

17. Solve for *w*: $23-\frac{1}{4}w=-5$

18. Money is invested in a savings account at 2.5% simple interest. After one year, $30.00 in interest is earned. What pr

19. Evaluate: $\frac{7^3\cdot 7^5}{7^6}$

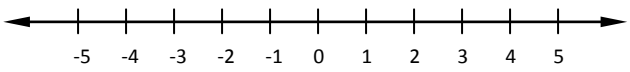
20. Simplify: $\left(2p^4\right)^3$

21. Simplify and write your answer with positive exponents: $\frac{1}{x^{-6}}$

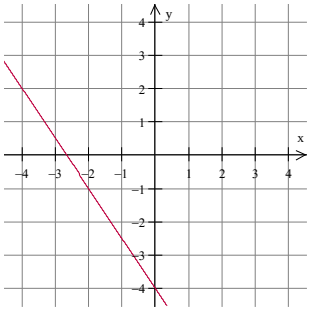
22. Evaluate: $\sqrt{25-16}$

23. Find the length of the diagonal of a rectangle with dimensions 5cm by 12cm.

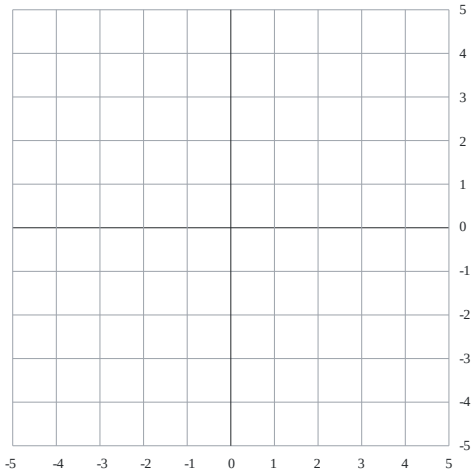
24. Solve the inequality and graph it on a number line $3x+13\le 5x+21$



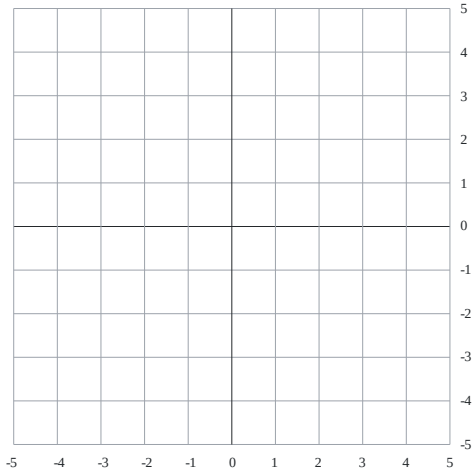
25. Determine the slope of the line using the graph



26. Graph $3x+2y+8=0$ and find the slope *m* of the line.



27. Find the x-and y- intercepts of the line $3x-4y=12$. Then use them to graph the line.



28. Simplify: $5a\left(a^2-3b-7\right)$

29. Simplify: $\left(x-5\right)\left(x-3\right)$

30. Factor: $6w-24wt$

31. Factor: $6a^3b^2 - 15a^2b + 3ab$

32. Factor: $x^2 - 5x - 84$

Answer Key

1. $\frac{5}{6}$ 2. $\frac{-7}{6}$ 3. $\frac{5}{2}$ 4. $\frac{8}{5}$ 5. 1.46

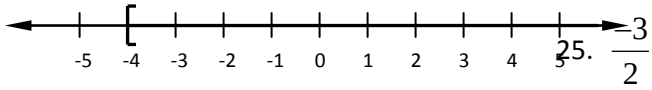
6.. $P = 9cm$ $A = 4.76cm^2$ 7. $126m^2$ 8. $-\frac{64}{9}$ 9. 27

10, $14x - 9$ 11. 3 12. $2x$ 13. $\frac{7}{6}a - \frac{19}{20}b$ 14. i) True ii) False

15. $a = -7$ 16. $t = \frac{-18}{5}$ 17. $w = 112$ 18. $1200

19. 49 20. $8p^{12}$ 21. x^6 22. 3 23. $13cm$

24. $x \geq -4$



25. $\frac{-3}{2}$

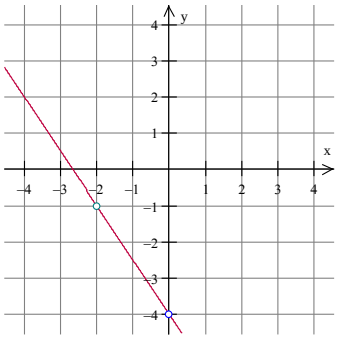
26. $m = \frac{-3}{2}$

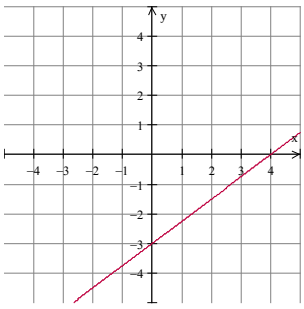
$3x - 4y = 12$

27. $x\text{int} : (4, 0)$

$y\text{int} : (0, -3)$

28. $5a^3 - 15ab - 35a$





29. $x^2 - 8x + 15$ 30. $6w(1 - 4t)$ 31. $3ab(2a^2b - 5a + 1)$ 32. $(x - 12)(x + 7)$