Math351

Practice Exam #02

1. **(See Video)** Add or subtract as indicated. Reduce when possible.

   a) $\frac{7}{3}-\frac{2}{3}$ b) $\frac{7}{4}+\frac{8}{5}$ c) $\frac{1}{2}-\frac{1}{4}-\frac{1}{6}$ d) $\frac{2b}{a}-\frac{9b}{a}$

2. **(See Video)** Multiply or divide as indicated. Reduce when possible.

   a) $\frac{11}{2}\div\frac{11}{6}$ b) $\frac{a}{4}\cdot\frac{3}{b}\div\frac{3}{4}$ c) $\frac{3}{4}\div\frac{1}{2}\div\frac{5}{4}$

3. **(See Video)** Simplify as much as possible.

   a) $-\frac{3}{4}\cdot\frac{14}{4}$ b) $\left(\frac{3}{2}\right)^3-\frac{1}{8}$ c) $1+\frac{1}{2}\div\left(\frac{1}{2}\right)^3$ d) $2-\frac{1}{6}\div\left(-\frac{1}{24}\right)$

4. **(See Video)** Find the value of each expression when $x=3$. Reduce when possible.

   a) $3-5x-x$ b) $3x^2-2x+1$ c) $\frac{x}{6}-\frac{3}{3x}$

5. **(See Video)** Reduce the following fractions to their lowest terms.

   a) $\frac{12}{20}$ b) $\frac{8ab}{16b}$ c) $\frac{48xyz}{8yz}$ d) $\frac{16x^2y^5z^4}{8yz}$

6. **(See Video)** Simplify the expressions below as much as possible.

   a) $\left[\left(\frac{4}{5}\right)^2+\frac{4}{25}\right]^2$ b) $\left[\left(\frac{3}{2}\right)^3-\frac{25}{8}\right]^2-\frac{1}{16}$

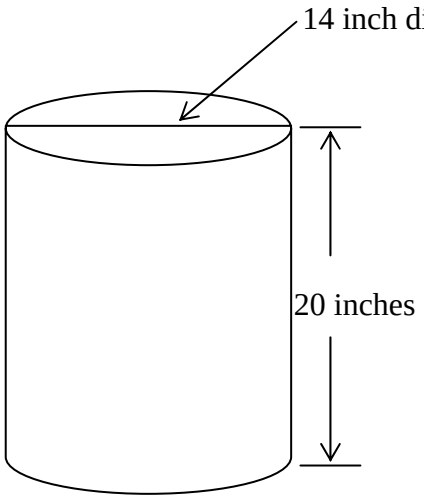
7. **(See Video)** Simplify the expressions below as much as possible.

   a) $\dfrac{\frac{1}{2}-\frac{3}{5}}{\frac{2}{5}+\frac{7}{10}}$ b) $\dfrac{\frac{5}{3}+\frac{1}{6}}{\frac{4}{5}-\frac{4}{15}}$

8. **(See Video)** Solve for x. Reduce when possible.

   a) $2x-5=9$ b) $3x+5=20$ c) $\frac{3}{4}x-\frac{5}{3}=-2$

9. **(See Video)** Calculate the volume of the right circular cylinder below.

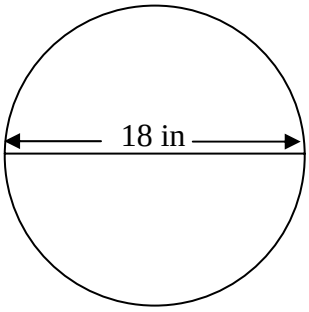


$V = \pi r^2 h$

10. **(See Video)** What number must be <u>subtracted</u> from 0.34 to obtain 6.46?

11. **(See Video)** Find the circumference and the area of the circle.

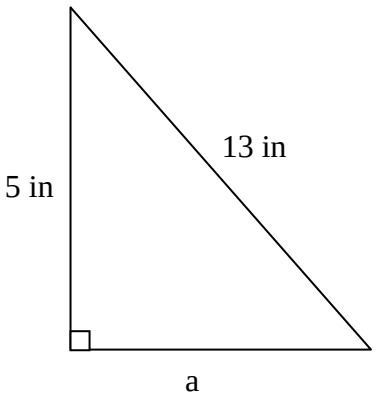
Circle: $A = \pi r^2$; $C = 2\pi r$



12. **(See Video)** Change each decimal to a fraction. Reduce to lowest terms.

a) 0.25 b) 0.875 c) 0.008

13. **(See Video)** Solve for a. $c^2 = a^2 + b^2$



14. Solve for x.

a) $x-5=-4$

$x=1$

b) $3x+6=8$

$x=\frac{2}{3}$

c) $3+2x=-2-5$

$x=-5$

15. Solve for x.

a) $2x-1-3x-4=-6-8$

$x=9$

b) $\frac{1}{2}x-1=\frac{2}{3}$

$x=\frac{10}{3}$

c) $\frac{5}{3}x-\frac{3}{2}=\frac{5}{6}$

$x=\frac{7}{5}$

16. Solve for x.

a) $\frac{5}{3}x-\frac{5}{2}x=\frac{1}{6}+\frac{3}{4}$

$x=-\frac{11}{10}$

b) $\frac{2}{3}x-3+\frac{1}{2}x-\frac{3}{4}=\frac{5}{6}+\frac{5}{3}-x$

$x=\frac{75}{26}$