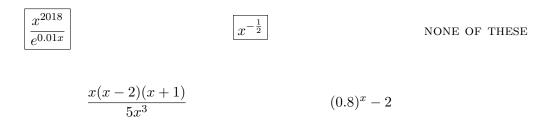
- 12. [10 points] In the following sentences circle all that apply. There might be more than one correct choice for each part.
 - **a.** [3 points] The function y = r(x) has a horizontal asymptote at y = 0. The formula of r(x) could be:



b. [3 points] The equation $\tan(\frac{x}{2} + \pi) = 5$ has solution:

$$\arctan(5)-\pi$$

$$\boxed{2\arctan(5)-2\pi} \qquad \qquad \text{None of these}$$

$$2\arctan(5)+\pi$$

- **c.** [2 points] Let Q(x) be an **odd** function such that $\lim_{x\to 5^-} Q(x) = -\infty$. Then $\lim_{x\to -5^+} Q(x)$ is equal to:
 - $-\infty$ 0 $+\infty$ 5 None of these
- **d**. [2 points] Let g(x) be a function that has domain $[0, \infty)$ and $f(x) = x^3 + x^2$. The domain of g(f(x)) is:
 - $[0,\infty)$ all real numbers $(-\infty,1]$ None of these